Electrical World

McGRAW-HILL, INC. • 330 WEST 42nd STREET, NEW YORK, N. Y. 10036

© Copyright 1971, McGraw-Hill, Inc.

GENERAL ALPHABETICAL INDEX

Volume 175 January – June 1971

A

ACCOUNTING

Central Illinois Light is one of the first utilities in the country to order the new IBM System/370 Model 145 Apr 1 65
Cincinnati G&E: Computers give instant customer/equipment data June 15 . . . . . *76
FPC adopts new accounting and reporting rules for five-year amortization of pollution-control facilities (N) June 15 15
FPC plans to revise USA (N) May 15 15
North Carolina Utilities Commission begins investigation of billing practices used by public utilities (N) May 15 15
Philadelphia Electric Co's computer code meeting the need for fuel-cycle data. Daebeler & Schafer (charts & table) Apr 15 36
Utilities want tax breaks – just like everyone else (N) Mar 15 27

ADVERTISING

see also **Public Relations** . . . . . .
California bill would prohibit all advertising and sales promotion by investor-owned utilities (electric, gas, and telephone) except advertising related to safety and consumer protection May 15 71
EEI's LBE advertising frequency will be increased (N) Feb 15 20
EEI's LBE program – selectivity: Key to LBE coverage (maps) Apr 15 72
Eugene (Ore.) Water & Electric commissioners sued to repay the $13,300 they spent for promoting nuclear proposal (N) June 1 135
Ipalco marketing approach to close the "builder gap": total-media ads aim at potential home-buyers; two-step program is directed at builders May 15 . . . . . *70
It's time to end the 'free ride' (Ed) Apr 15 7
NRECA's Partridge files complaint that ads sponsored by investor-owned utilities are in violation of FTC Act (N) May 1 20
Ohio task force votes 14-to-10 to ask PUC to restrict advertising by electric utilities, in an effort to retard expanding use of electricity (N) June 1 19
Public Information Program survey on utility advertising and promotion (N) Mar 1 20
Public Utilities Advertising Assn convention: Advertising, PR draw fire June 15 84
Spiffs lose favor as FTC seeks ban May 1 82
Virginia E&P curtails ad program until it can be re-evaluated (N) June 15 20
Washington, D.C. student group seeks promotional cutback from Potomac Electric Power (N) May 1 . 29

AIR CONDITIONING

Apartment central cooling system challenges through-the-wall units Apr 1 . . . . . *72
Shipments of central air-conditioning units Jan 1 . . *68

AIR POLLUTION

see **Environmental** . . . . . .

ANNIVERSARIES

GE's Power Line Carrier Operation's golden year (N) June 1 . . . . . *143

APPLIANCES

Microwave ovens: Manufacturers agree to HEW standard Feb 1 123
1970 appliance sales good, '71 looks better (chart) Apr 1 72
Westinghouse's water heaters that meet the new EEI-SEE standards (N) Mar 15 20
Why buy a dishwasher? The buyers reply Apr 15 . . 75
Zero-growth power advocates ignore effect on the poor says Dr. Stelzer of NERA (table) Mar 15. . . . 147

AREA DEVELOPMENT

Niagara Mohawk automates area development Mar 15 165

ASIA

India: C-E, BHEL pen license, tech-aid pact (N) June 1 140
Iran: 230-kv double-circuit line, carries power from the Mohammed Reza Shah Pahlavi Dam to Teheran Jan 1 . . . . . *42
Japan: Hitachi develops HVDC thyristor (N) Jan 1 . . . . . *83
Japan will remove import controls on steam turbines under 400 Mw (N) Feb.15 103
Japanese government takes electric car lead June 1 86
Japanese-Westinghouse N-fuel joint venture plant (N) Apr 15 113

ASSOCIATIONS

American Institute of Architects call for energy conservation May 15 72
American Power Conference: Holifield proposes joint venture to build LMFBR (N, charts) June 1 . . . . . *26
American Public Power Assn's annual convention
Open season on the nation's fuel suppliers (N) May 15 20
Fuel suppliers get heavy flak (N) June 1 . . . . . *23
APPA undertakes fuel study (N) Jan 1-20, (N) Apr 15 28
ASME symposium tackles thermal discharges (chart) Jan 1 . . . . . *36
EEI and Interior Dept jointly fund study of underground transmission (N) May 15 19
EEI electric-heat survey shows over 135-million sq ft added (table) Apr 15 74
EEI has 53 active research projects at the start of 1971 (N) Feb 1 20
EEI marketing conference
Emphasizes use of electricity as a major part of the solution to pollution (table) Apr 1 . . . . . *69
Utility marketing: jobs in jeopardy? Apr 15 107
EEI marketing division: Alternative approaches to reorganization (N) Apr 1 20
EEI policy committee supports the breeder program (N) Jan 1 71
EEI sets up plant-siting guidelines (N) May 1 28
EEI survey shows utilities involved in 445 H_2O studies (N) May 15 93
EEI task force recommends an electric industry exhibit at the new Disney World park in Orlando, Fla (N) Jan 1 19
EEI's LBE program for 1971 is supported by 82

(Ed) Editorial. *Illustrated. (N) News.

companies (N) Feb 1 20
EEI's LBE program – selectivity: Key to LBE coverage (maps) Apr 15 72
EEI's W. Donham Crawford at seminar on science and public policy: Crawford hands meat to the bone-pickers (N) Apr 1 81
Electric Heating Assn and EEI merger: agreement in principle reached (N) June 15 20
EVC/LIA study points to electric-truck promotion (tables) Jan 15 80
EW conference explores 'Energy for the '70s' (N) Feb 1-19, (N) Feb 15 ..... *29
IEE/ERA conference on distribution: British confer on underground distribution Apr 1 49
IEEE Power Meeting (charts) Mar 1 ..... *30
R&D dominate Power Engineering Society program Mar 1 ..... *30
Transmission can be readily uprated Mar 1 ..... *32
CGI cable to match overhead ratings Mar 1 ..... *33
Planning and system operation refined Mar 1 ..... *34
UD cable ampacity debated Mar 1 ..... *35
National Ath Assn: Tiny spheres from flyath fir.d market June 1 ..... *62
National Assn of Home Builders convention: Gold Medallion homes steal NAHB show Mar 15 ..... *149
NARUC's Bloom: 'Environment improvement, pushed by ecologists . .is laudable – but costly' (N) Jan 15 ..... *27
NARUC's Model Rules on promotional practices contain an "escape provision" (N) Jan 15 20
National Rural Electric Cooperative Assn annual meeting: The Co-ops don't like Nixon policies (N) Mar 15 28
NRECA Convention: Under Pres Nixon's proposed government reorganization plan, "REA and AEC will be smothered to death" along with Joint Committee on Atomic Energy, says Rep Chet Holifield (N) Mar 1 19
NRECA's Partridge files complaint that ads sponsored by investor-owned utilities are in violation of FTC Act (N) May 1 20
Public Utilities Advertising Assn convention: Advertising, PR draw fire June 15 84
Public Utility Buyers Group's annual conference: Buyer meets seller in feature session (N) Apr 1 ..... *117
SEE examines industry growth (N) Apr 15 32
World Energy Conference 1974 to be held in Detroit (N) June 1 30

ATOMIC ENERGY COMMISSION
As-low-as practical regulation goes into effect this month (N) Jan 1 71
Breeder reactor program see **Nuclear Power**
Construction permits, licensing etc. see **Nuclear Power**
Enrichment charge may be raised to $32/separate work unit (N) Jan 15 75
Hanford closing hits Northwest (N) Feb 15 27
WPPSS will furlough 29 of the 48 employees as result of the N reactor shutdown (N) Apr 1 73
Hanford II reactor contract to GE (N) Apr 15 85
Implements the National Environmental Policy Act, issuing its own policy (N) Jan 1 71
Plan to create a permanent depository for nuclear wastes in a central Kansas salt mine is running into opposition (N) Mar 15 119
Radiation discharges see **Environmental – Nuclear; Environmental – Thermal**
Thermal pollution see **Environmental – Nuclear; Environmental – Thermal**
To study waste-heat uses to provide food (N) Feb 1 90
What power agencies plan to spend next year (table) Feb 15 28
Who'll fill vacancies at FPC, AEC? – Washington Comment Jan 1 9

AWARDS
Edison Award: nominees include Con Edison, Central Power & Light Co and Florida Power Corp (N) Mar 1 20
Habirshaw Award to Fred Vogel Mar 1 ..... *30
McGraw, James H. Awards for Electrical Men: Don Kennedy wins McGraw Utility Medal (N) Apr 15. . *31

B

BATTERIES
see also **Industrial Applications – Electric cars**
GM has doubts on electric car; utility optimistic (N) Apr 1 27
Lead-calcium batteries minimize telecommunications maintenance May 15 ..... *65
Three-wheel truck runs on batteries Feb 1 ..... *77

BOILERS
Boiler drum raised by hoists, cranes Feb 15 ..... *70
Electrostatic precipitator designed specifically for an oil-fired boiler (N) June 15 131
Forced-outage rate trends up with fossil-unit size (charts & table) Jan 1 49
Niagara Mohawk's Albany Steam Station converted from coal to oil with minimum disruption. Kallenbach & Cotter (chart) June 15 ..... *47

BONNEVILLE POWER ADMINISTRATION
Canadian HVDC line to test 765 kv for US Jan 1 .. 42
Kooler Substation air-blast circuit breaker (N) May 15 20
Stresses use of microwave on 500-kv line (map) Mar 15 132
West Coast utilities get neurotic about rains, growing pains (N) Jan 1 26
What power agencies plan to spend next year (table) Feb 15 28

BOOK REVIEWS
Diakoptics and Networks. H.H. Happ May 15 56
Management Controls for Computer Processing. Michael J. Rauseo Apr 15 108
Modern Network Analysis. Kim & Meadows Jr. Feb 15 86
Technological Change in Regulated Industries. Brookings Institution (N) June 15 15

BRITISH ISLES
Berkeley nuclear station sabotaged (N) June 1 19
Britain expects 200% gain in kwhr sales by 1975 (N) Jan 1 20
CEGB cleaning up after worker slowdown (N) Jan 1 ..... *24
CEGB winter loads go on huge computer Mar 1 .. *52
IEE/ERA conference on distribution: British confer on underground distribution Apr 1 49
Rising fuel costs could push Britain more strongly towards nuclear (N) Mar 15 120

BUSES
Bus design: What's happening in substations? – report. W.C. Hayes (table) June 1 ..... *40
Bus-duct breakers simplify station layout Apr 15. . . 39

C

CABLES
Anaconda introduces cable with zip-off semicon shield (N) May 15 ..... *111
Baltic 30-mile cable will be installed between the Finnish islands of Aaland and the Swedish mainland Mar 1 47
Can you really optimize URD design? R.F. Cook & others (tables) Jan 1 ..... *38
Canada: Ontario Hydro looks at PVC-coated cable for slab casting in Toronto apartment suites May 1 82
Canada: Vancouver dc link achieves 99.2% availability (tables) Mar 1 46
IEEE Power Meeting: CGI cable to match OH ratings (charts) Mar 1 ..... *33
UD cable ampacity debated Mar 1 35
Program analyzes cable thermal parameters (chart) Mar 15 101
Superior service at same price billed for new cable shielding (N) May 1 ..... *134
Sweden: HVDC reinforcement due for Gotland Feb 15 61
Tags tell location of URD cable ends at SMUD Apr 15 ..... *46
Underwater cable fault due to thermal runaway May 1 ..... *52
Circumstances leading to failure of single 500-MCM Pansy/Velco underground cable May 1 ..... *53

CANADA
B.C. expects demand of 6,700 Mw by '75 Mar 15 .. 115
British Columbia Hydro's Mica Dam: 65 gigantic earthmovers build a dam Feb 1 ..... *76
CANDU-BLW unit: First light-water-cooled natural-uranium reactor (N) May 1 125
Capacity additions (table) Mar 15 70
Capital spending, 1970-1971 (tables) Mar 15 68
Con Edison resumes discussions with Hydro Quebec to explore buying part of output (N) May 15 19
Dept of National Revenue begins probe of h-v circuit-breaker dumping (N) Apr 1 113
Dinsmoor Bridge lighting uses wall-mounted fixture May 15 ..... *71
Enrichment plants considered (N) Apr 15 85
HVDC line to test 765 kv for US Jan 1 42
Hydro-Quebec's new 735-kv line detours icing area. C. M. Seifert (map & charts) Feb 1 58
Ontario Hydro looks at PVC-coated cable for slab casting in Toronto apartment suites May 1 82
Ontario Hydro,starts up the first 540-Mw Pickering unit (N) Apr 1 73
R/W air seeding has double goal (N) Jan 1 73
Vancouver dc link achieves 99.2% availability (tables) Mar 1 46

CAPACITORS
Capacitor bank used to power remote loads can be a headache: Bowater's Deer Lake, Newfoundland, experience (chart) May 15 46
Prices (N) Mar 1-108 (N) May 15 103
Sweden installs biggest series capacitor Feb 1 57
Switched by radio, phone. D.A. Yigdal (tables) June 1 ..... *76

CAPACITY ADDITIONS
Canadian capacity additions (table) Mar 15 70
Electric power industry capability 1971 and beyond, Mw (table) Mar 15 55
FPC's view: Summer capacity, 1971 (table) Mar 15. . 82
51 large generating units to be built by joint participation (table) Mar 15 57
Future electric generating capability additions by region, Mw (table) Mar 15 56
Generating-plant additions scheduled at a record 37,187 Mw in 1971 (charts & tables) Mar 15 54
Installed capacity of utility generating plants by states & type (table) Mar 15 59
New capability additions reported to Electrical World, Mw (table) Mar 15 54
Six T-E jobs account for 72% of load: 1971 Directory & Data Book of the Total/Energy Newsletter May 15 72
Utility building can't stop for a brief recession (Ed) Mar 15 7

CARRIER CURRENT
see **Communications, Controls** .....

CIRCUIT BREAKERS
Air-blast circuit breaker for BPA's Keeler substation (N) May 15 20
Bus-duct breakers simplify station layout Apr 15 .. 39
Canada's Dept of National Revenue begins probe of h-v circuit-breaker dumping (N) Apr 1 113
Hi-voltage breakers: What's happening in substations? – report. W.C. Hayes (chart & table) June 1 ..... *36
Prices (N) June 15 123
Synchronous interruption gives breaker 150,000-amp capability (chart) Apr 1 ..... *48
Team aims for HVDC breaker breakthrough (N) Jan 15 106
Vacuum breakers protect 12-kv overhead loop at Stanford Research Institute Feb 15 ..... *60

COMMUNICATIONS
BPA stresses use of microwave on 500-kv line (map) Mar 15 132
Bargraph display shows 50 inputs Jan 1 ..... *54
Capacitors switched by radio, phone. D.A. Yigdal (tables) June 1 ..... *76
Carrier reliable for relaying, telemetering, or control Jan 1 ..... *54
Central Illinois Light is one of the first utilities in the country to order the new IBM System/370 Model 145 Apr 1 65
Cincinnati G&E: computers give instant customer/equipment data June 15 ..... *76
Computer-controlled test set performs 25 intricate tests on new communications equipment Feb 1 .. *81
'Credit size' card dials phone automatically Feb 15 . *75
Detectors check condenser-water temperatures Feb 1 ..... *80
Florida P&L's material and supplies viewed instantly with video screen and a typewriter keyboard Jan 15 ..... *66
Highway users back FCC proposal – in part Mar 1 .. 53
Lead-calcium batteries minimize telecommunications maintenance May 15 ..... *65
Microwave test set accurate and portable Mar 15 .. *133
Monitor, Vini-Con, for single critical condition Feb 15 ..... *75
91A carrier, transmits, receives 24 conversations Jan 15 ..... *67
Quadrature channel enhances protective relaying security (charts) Feb 1 82
Radio control aids load management at Northeast Utilities. Douglas Morton (map) Apr 15 ..... *58
Radio fits in palm of hand Jan 1 ..... *55
Radio signal adds safety to crane operations May 1 . *75
Radio-telescope at University of Illinois's Vermilion River Observatory: Rural site has 'ear' to outer space Apr 15 ..... *68
Side-looking radar provides 'pictures' despite environment May 15 ..... *65
Suppressor protects electronic equipment Feb 15 .. 75
Sweden: Wind yields power for telephones Apr 1 .. *64
System scans environment automatically Apr 1 ..... *65
Terminal uses phone lines, usual paper Jan 1 ..... *55
Thermistor chain quickly maps thermal plumes (map) Feb 15 ..... *74
Three utilities plan computer systems for supervisory control and data acquisition Apr 1 58
Transceivers used widely at Lilco Mar 15 ..... *132
Utah P&L apprentice program for electronic journeymen: Electronic apprentice must prove mettle on and off job (table) Mar 1 ..... *74

COMPUTERS
Advanced control systems planned by Arkansas P&L, Florida P&L and Tohoku Electric June 15 .. *68
Allegheny Power's one-computer system optimizes control. McCarthy & Steele June 15 ..... *66
Analog computer enlarged to study UHV transients May 1 ..... *64
Bargraph display shows 50 inputs Jan 1 ..... *54
BASIC time-sharing mini-computer system at the Univ of Colorado, makes power lab popular Mar 15 ..... *134
Basic Time-Sharing System (BTSS) eases computations Mar 1 ..... *53
Can you really optimize URD design? R.F. Cook & others (tables) Jan 1 ..... *38
CEGB winter loads go on huge computer Mar 1 .. *52
Central Illinois Light is one of the first utilities in the country to order the new IBM System/370 Model 145 Apr 1 65
Central P&L's computer designed for expansion. Caylor & Sacks May 1 ..... *62
Cincinnati G&E: Computers give instant customer/equipment data June 15 ..... *76
Computer-controlled test set performs 25 intricate tests on new communications equipment Feb 1 .. *81
Computer program service via direct access anounced by Westinghouse May 15 56
Consulting engineers open AEP software library to industry (N) June 1 139
Cost program recognizes forced outages: digital computer program develops generation production costs for use in system planning studies (chart) June 1 ..... *68

(Ed) Editorial. *Illustrated. (N) News.

Dual computers to control 46 terminals on Minnkota Power Cooperative system June 1 69
Electric Power Board of Chattanooga, Tenn., program may lead to remote computer control of substations Mar 15 100
Florida P&L's material and supplies viewed instantly with video screen and a typewriter keyboard Jan 15 .... *66
Four programs available on time-sharing from the EUEO of General Electric Co Jan 15 58
"GE Action" caravan carts computer to customer (N) Mar 1 .... *98
GE-PAC 4070 computer system price hike (N) June 1 137
Illinois Power's effective planning doubles storeroom capacity June 15 .... *61
IBM System/370 extends data capacity and performance Apr 15 .... *69
Keypunch records data at source Jan 1 .... *55
Linear programming sets long-range transmission (charts) Feb 1 70
"Management Controls for Computer Processing" by Michael J. Rauseo Apr 15 108
Master unit to control many remotes in Con Edison's energy-control center. R.K. Sullivan Feb 15 .... *64
Middle South Utilities Inc center for control system, BPMS, being expanded Feb 15 .... *66
Modern Network Analysis by Kim and Meadows Jr. – book review Feb 15 66
NASA's Jet Propulsion Lab backup power maintains back-up monitoring for the safe splashdown of the Apollo 14 astronauts while California rocked in its fiercest earthquakes Apr 1 64
Niagara Mohawk automates area development Mar 15 165
Philadelphia Electric Co's computer code meeting the need for fuel-cycle data. Daebeler & Schafer (charts & table) Apr 15 36
Power Technologies method speeds analysis of system transients (chart) Apr 15 61
Program analyzes cable thermal parameters (chart) Mar 15 101
Raleigh, N.C., terminal prints out Westinghouse Pittsburgh programs for Carolina P&L Jan 15 .... *67
SMUD's post analysis cuts customer outages Feb 1 57
Sangamo gives hypo to auto meter reading (N) Jan 1 .... *82
A day with a Purdax-style meter reader (N) Jan 1 .... *82
Simplified model aids system stability study Feb 15 65
Terminal uses phone lines, usual paper Jan 1 .... *55
Three utilities plan computer systems for supervisory control and data acquisition Apr 1 58
Unit overhaul scheduled with program called MSP Apr 1 58
Westinghouse computer programs give energy output and cost Mar 15 114

CONDENSERS

ASME symposium tackles thermal discharges (chart) Jan 1 .... *36
Detectors check condenser-water temperatures Feb 1 .... *80
Pacific G&E will build spray-cooling canal system for Pittsburgh (Calif) generating station (N) May 15 20
Trent Tube mill production begins (N) June 1 .... *141

CONDUCTORS

Creep strongly affects conductor sag (chart & table) Feb 1 57
Predetermination of conductor uplift during pull can be easy. P.C. Evans (charts & table) Mar 15 .. 99

CONNECTORS

Battelle Memorial Institute proposes intensive study of aluminum connectors Apr 15 46
Load-break elbow means big improvement in 25-kv system Feb 15 .... *59
"Non-load-break" elbows: Better 'dead' than mis-read (Ed) Feb 15 7

CONSTRUCTION

All-electric Rip Van Winkle House in Poughkeepsie, N.Y.: Demand control keeps heating load way down Jan 15 .... *81
Boiler drum raised by hoists, cranes Feb 15 .... *70
Bucket truck-crane has 70-ft reach Jan 1 .... *56
Canada: Hydro-Quebec's new 735-kv line detours icing area. C.M. Seifert (map & charts) Feb 1 58
Canada: 65 gigantic earthmovers build British Columbia Hydro's Mica Dam Feb 1 .... *76
Concrete A-frames cast on site at Public Service E&G's Salem Nuclear Station June 15 .... *58
Consolidated Edison Indian Point 3: Rigging failure causes near-drop of reactor vessel (N) Feb 15 83
Construction: A major challenge for the '70s (Ed) Apr 1 7
Contractors ask: Why sell electric heat? (N) June 1 . 25
Direct-buried unit looks good in test at Nevada Power. Sutton & Hanson (chart & tables) Jan 15 .... *46
Ebasco's McCall sees 70% rise in plant costs (chart) Jan 15 41
EEI electric-heat survey shows over 135-million sq ft added (table) Apr 15 74
EW's Utility Executive Conference, "Building the Power Systems of the 70s" – Construction: what went amiss? (N) June 15 .... *29
Enclosures for shielding digger-derrick operators keeps operator safe, comfortable Mar 15 .... *141
Financing looks better now (N) Feb 15 15
Illinois Power Co: Downtown areas go underground. Albutis & Rand (charts) Mar 15 .... *96
Jersey City, N.J.: Total energy is HUD choice Feb 1 123
Liberty Equipment Co Inc: new face in construction gear (N) June 1 143
LADWP's construction aided by lowbed trailer Mar 15 .... *142
Machine trenches, backfills, and backhoes Jan 15 .. *65
Memphis HUD site to go all-electric Feb 1 122
Michigan: Phone number set to prevent dig-ins Feb 1 61
Mobile 1-man unit reaches jobs 46 ft up Jan 15 .. *65
Mobile units cope with varied jobs at Niagara Mohawk Power Apr 15 .... *64
Ohio Edison Co: Ground assembly, high lift cut precipitator schedules by six months at R.E. Burger Power Plant May 1 .... *42
Power Structures Inc makes first year count (N) June 1 139
Precipitator replaced in record time at Illinois Power Co's Wood River Steam Station Jan 1 .... *34
Predetermination of conductor uplift during pull can be easy. P.C. Evans (charts & table) Mar 15 .. 99
Public Service E&G investigating the feasibility of nuclear plants in the Atlantic Ocean June 1 .... *63
Puget Sound P&L's Renton Valley line: Hollow concrete piling for tower foundation solves unstable soil conditions May 1 .... *54
Rail car and crane deliver, set stator at Georgia Power Co's Plant Bowen Jan 15 .... *64
Reynolds develops substations built of standard modules (N) Feb 1 128
Rough-terrain crane cuts rehandling 10% to 15% to meet deadlines at Wisconsin PS's Kewaunee nuclear plant June 15 .... *74
Seven-year lead time seen for light-water units (charts) May 1 45
Six concrete bucket transfer cars to shift concrete at Coulee Dam Mar 15 .... *142
Substations: The two faces of substation engineering (Ed) June 1 7
Transmission and distribution spending, 1969-1971 (charts) Mar 15 49
Trench-lay transformer enters service at Lilco. N.E. Piccione Apr 1 .... *44
Utility corridor offers access into urban areas. Bruce Howlett Apr 15 .... *45
Vepco's Mt Storm station: truck crane shows might June 1 .... *80
Versatile units fight construction costs May 1 .... *70
Wisconsin-Michigan Power's Point Beach nuclear plant: Dollies, barges, cranes assemble plant Mar 15 .... *140

CONTROLS

Advanced control systems planned by Arkansas P&L, Florida P&L and Tohoku Electric June 15 .. *68
Carrier-frequency tuning easier at SCE. Acton & Rhinehart May 15 .... *46
Carrier reliable for relaying, telemetering, or control Jan 1 .... *54
Central Nebraska's hydro control system uses programmable remotes May 15 .... *56
Computer control see **Computers**
Crane-control console swivels on 12-in. ball bearing Mar 1 .... *57
'Detective' avoids stainless-tube mixup (N) Mar 15 .... *179
Diamond Power pushes quality in reactor controls (N) Mar 1 .... *99
GE goes to factory packaging for N-plant instruments, controls (N) Mar 15 .... *179
Master unit to control many remotes in Con Edison's energy-control center. R.K. Sullivan Feb 15 .... *64
Middle South Utilities Inc center for control system, BPMS, being expanded Feb 15 .... *66
Monitor, Visi-Con, for single critical condition Feb 15 .... *75
One-wire supervisory system at SCE's Mesa substation may slash control-wiring costs Apr 1 .... *46
Radio control aids load management at Northeast Utilities. Douglas Morton (map) Apr 15 .... *58
Suppressor protects electronic equipment Feb 15 .. 75
System scans environment automatically Apr 1 .... *65

COOPERATIVES

Colorado Ute Electric Assn and Salt River Project will jointly build steam unit for 1976 startup (N) Apr 15 19
Co-ops break away from REA's apron strings – Washington Comment Mar 15 11
Co-ops get more than federal money (N) June 1 .. 15
Dual computers to control 46 terminals on Minnkota Power Cooperative system June 1 69
Hoosier plant losses blamed on REA Chief David Hamil (N) Jan 15 19
Indiana co-ops offer hometown "news" recording service free to legislators of the Indiana General Assembly (N) Feb 15 27
Iowa House passes bill to tax rural electric co-ops (N) Apr 1 20
Kansas utilities form kw/eco-Council (N) Mar 15 .. 158
National Rural Electric Cooperative Assn annual meeting: The Co-ops don't like Nixon policies (N) Mar 15 28
Oklahoma State controls: Co-ops' views (N) Apr 15 30
San Diego G&E acquires all properties of Mountain Empire Electric (N) Jan 1 20
Statistics of REA-financed systems (table) Mar 15 .. 67
Wisconsin Senator Swan describes rural co-ops as a "sacred cow" (N) Jan 1 20

CORPORATE CHANGES

Allis-Chalmers acquisition of TurbOtech Inc (N) Apr 15 121
Allis Chalmers forms utility equipment group (N) Mar 1 .... *100
AEP-Columbus & Southern Ohio Electric proposed merger
AEP subpoena against Con Ed's Roddis quashed by SEC order (N) Jan 15 28
Why has AEC President Cook been subpoenaed by SEC lawyers? (N) Mar 1 19
SEC asks hearing examiner to uphold subpoena of Cook (N) Apr 15 20
Anixter unit changes name, adds services (N) May 1 135
Dayton P&L wants to acquire all of the municipal electric systems currently operating in its service area (N) May 15 15
Dowzer Electric merges into Sola (N) Feb 15 105
English Electric Corp relocates its headquarters from New York City to Elmsford, N.Y. (N) Jan 1 83
GPU Service Corp gets SEC sanction (N) June 1 .. 20
Gulf Oil and United Nuclear propose formation of Gulf-United Nuclear Fuels Corp (N) May 15 103
Huntington Electric Light and Massachusetts Electric will merge (N) May 1 15
Iowa-Illinois G&E and Iowa P&L get FPC okay to merge into Iowa Energy Co (N) Jan 15 19
State battles Iowa merger Feb 15 .... *33
Iowa P&L executive wanted to drop merger (N) Apr 1 26
Turner again raps two Iowa utilities (N) Apr 15 .. 30
MSU's acquisition of Arkansas-Missouri Power approved (N) June 1 20
The L.E. Myers story: Big and getting bigger (chart) (N) Feb 1 126
Nuclear Associates International Corp has been reacquired from Scientific Resources Corp (N) June 1 137
PS of Colorado forms new wholly owned subsidiary, to be known as Fuel Resources Development Co (N) Jan 1 19
Public Service of New Hampshire to purchase Greenville Electric Lighting (N) May 15 15
Rolls-Royce (1971) Ltd becomes a fully operational entity (N) June 1 137
San Diego G&E acquires all properties of Mountain Empire Electric (N) Jan 1 20
Sola Basic announces plans to acquire Bishop Manufacturing (N) Mar 15 177
Union Electric/Missouri Utilities merger opposed by city of Cape Girardeau (N) Mar 15 20
Westinghouse Electric Corp generation-gear service given division status (N) Apr 15 115

D

DIESEL POWER

Colombia: mobile, diesel-powered generator set for installation at a hydroelectric project Apr 1 .... *61

DISTRIBUTION

Capacitor bank used to power remote loads can be a headache: Bowater's Deer Lake, Newfoundland, experience (chart) May 15 48
Expenditures for lines and substations – thousands of dollars, 1970-1971 (tables) Mar 15 50
Italy: Lattice towers have low visual impact (table) Feb 15 .... *56
Mobile-home-park meters spark dispute Mar 15 148
Pepco's module concept guides power-system planning (map) Jan 1 .... *46
SMUD's post-analysis cuts customer outages Feb 1 .. 57
Transmission and distribution – new lines and substations energized, 1970-1971 (tables) Mar 15 52
Transmission and distribution spending, 1969-1971 (charts) Mar 15 49
Utility building can't stop for a brief recession (Ed) Mar 15 7
Vacuum breakers protect 12-kv overhead loop at Stanford Research Institute Feb 15 .... *60
What's happening in substation? – report. W.C. Hayes. Transmission and distribution (charts) June 1 .... *45-49
Hi-voltage protection June 1 .... *45
Low-voltage protection June 1 .... *46
Relaying June 1 .... *46
Structures June 1 .... *47
Grounding June 1 49

DISTRIBUTION, UNDERGROUND

Can you really optimize URD design? R.F. Cook & others (tables) Jan 1 .... *38
Columbia Md., 3.2-mile, 230-kv line may go underground (N) Mar 15 19
Direct-buried unit looks good in test at Nevada Power. Sutton & Hanson (chart & tables) Jan 15 .. *46
Expenditures for lines and substations – thousands of dollars, 1970-1971 (tables) Mar 15 50
Illinois Power Co: Downtown areas go underground. Albutis & Rand (charts) Mar 15 .... *96
IEE/ERA conference on distribution: British confer on underground distribution Apr 1 49
IEEE Power Meeting: UD cable ampacity debated Mar 1 35
Load-break elbow means big improvement in 25-kv system Feb 15 .... *59
Maryland PSC proposes all electric and phone lines

(Ed) Editorial. *Illustrated. (N) News.

to new residences underground in future (N) May 1 ... 20
Michigan: Phone number set to prevent dig-ins Feb 1 ... 61
Pacific G&E overhead conversion boosted (N) Mar 1 ... 47
Tags tell location of URD cable ends at SMUD Apr 15 ... *46
Transmission and distribution – new lines and substations energized, 1970-1971 (tables) Mar 15 ... 52
Transmission and distribution spending, 1969-1971 (charts) Mar 15 ... 49
Trench-lay transformer enters service at Lilco. N.E. Piccione Apr 1 ... *44

E

EDUCATION
Dallas P&L aids blind child's independence with cooking school for the blind Jan 1 ... *67
NOPSI VP is EUMI's 2,500th graduate Feb 1 ... *122
Plumbers and sheepskins May 1 ... 90

ELECTRIC ENERGY MARKETING
All-electric Rip Van Winkle House in Poughkeepsie, N.Y.: Demand control keeps heating load way down Jan 15 ... *81
AP&L finds safety sells water heaters Jan 15 ... 81
Booz, Allen & Hamilton's preliminary report on reorganizing the entire industry's marketing and promotion program (N) Jan 1 ... 19
Boston's South Street Complex: prototype "moving walk" is proposed Mar 15 ... *146
Britain expects 200% gain in kwhr sales by 1975 (N) Jan 1 ... 20
Cincinnati sells all-electric stadium. J.C. Conner Jan 1 ... *66
Consumers' Council proponents zero in on utilities Apr 15 ... 74
Contractors ask: Why sell electric heat? (N) June 1 ... 25
Conversion show-home boosts electric heat June 15 ... *85
Customer concern about power shortage has not changed competitive energy picture – yet Mar 1 ... 61
Dallas P&L aids blind child's independence with cooking school for the blind Jan 1 ... *67
Delphi method of technological forecasting: Oracle for marketing men? May 1 ... 89
EEI electric-heat survey shows over 135-million sq ft added (table) Apr 15 ... 74
EEI's LBE budget cut seen in 1971 Jan 15 ... 81
EEI's "Live-Better-Electrically" program for 1971 is supported by 82 companies (N) Feb 1 ... 20
EEI's LBE program – selectivity: Key to LBE coverage (maps) Apr 15 ... 72
EEI marketing conference emphasizes use of electricity as a major part of the solution to pollution (table) Apr 1 ... *69
EEI task force recommends an electric industry exhibit at the new Disney World park in Orlando, Fla. (N) Jan 1 ... 19
EEI/SEE water-heater standard gets solid utility OK June 15 ... 86
Electric energy sales – millions of kwhr (table) Mar 15 ... 61
EHA's Shannahan: Don't stop marketing June 15 ... 86
EVC/LIA study points to electric-truck promotion (tables) Jan 15 ... 80
Electric vehicles on the move worldwide June 1 ... 84
Elec-Trak: How is it doing? June 1 ... *84
... And a German utility backs electrics June 1 ... *85
Japanese government takes electric car lead June 1 ... 86
Swedes plan electric car market study June 1 ... 87
'Electricity is for people,' and Reading, Pa., proves it Apr 1 ... *70
Europe: fiberglass mat extends heating uses Mar 1 ... 62
Europe gives new heating mat a nudge: radiant ceiling at Belgium's Bernissart Museum and by snow melting on parking-garage ramp at Vienna (Austria) City Hall May 1 ... *80
Gold Medallion homes steal NAHB show Mar 15 ... *149
I&M sales is a job for everyone – ASAE's all-electric headquarters in St. Joseph, Mich. Jan 15 ... *82
Ipalco marketing approach to close the "builder gap": total-media ads aim at potential home-buyers; two-step program is directed at builders May 15 ... *70
Isolated generation see **Generators**
Jersey City, N.J.: Total energy is HUD choice Feb 1 ... 123
Jewelry sparkles with mercury-vapor lamps May 1 ... *82
Lighting, the important 'attention-getter' at auto dealership Apr 15 ... *73
Lighting starts move to indoor farming Feb 15 ... *98
MBO – the way to go at AP&L (charts) Feb 1 ... *120
Memphis HUD site to go all-electric Feb 1 ... 122
Mercury-lamp pollution: How much of a problem? (table) Feb 15 ... 100
Mercury lamps light mall area at Burlington, N. C. June 1 ... *87
Mercury-vapor lamp rated at 3,400K Apr 15 ... *75
Microwave ovens: Manufacturers agree to HEW standard Feb 1 ... 123
1970 appliance sales good, '71 looks better (chart) Apr 1 ... 72
Off-peak kwhr are used for heat by day at New Hampshire Insurance Co home office building Mar 1 ... *60
Ontario Hydro looks at PVC-coated cable for slab casting in Toronto apartment suites May 1 ... 82
Promotional allowances see **Regulation & Rates**
Public Utilities Advertising Assn convention: Advertising, PR draw fire June 15 ... 84
Sears Tower, world's tallest building will be all-electric (N) Feb 1 ... 20
Security lighting kit sold direct by APS Jan 1 ... *68
Swift process: A little electricity cleans waste water Mar 15 ... 148
Three Rivers Stadium in Pittsburgh: Lighting helps batters do better at night (tables) May 1 ... *81
Unit-train economics optimized with night-time lighting. C.H. Davison June 15 ... *48
'Use the user' sells store on HID units – Two Guys, in Cherry Hill, N.J. Jan 15 ... *82
Utility marketing: Jobs in jeopardy? Apr 15 ... 107
Westinghouse unveils indoor commerical HID lamp Feb 1 ... 123
Zero-growth power advocates ignore effect on the poor says Dr. Stelzer of NERA (table) Mar 15 ... 147

"ELECTRICAL WORLD"
Braymer, Dan retires (Ed) Feb 1 ... 7

EMPLOYEE TRAINING & WELFARE
see also **Labor**
AEP's computer-controlled power plant simulator for fossil-plant operator training (N) Mar 1-101, (N) Apr 1 ... 73
B&W's new welding school nets several phases (N) June 15 ... *130
EHV: Working EHV hot takes training Feb 1 ... *54
GE sets up new N-operations training service (N) Feb 1 ... 127
Niagara Mohawk's indoor pole line helps linemen to survive Feb 1 ... *61
Singer-Link to build simulator-trainer for Calvert Cliffs plant (N) Mar 15. ... 182
Utah P&L apprentice program for electronic journeymen: Electronic apprentice must prove mettle on and off job (table) May 1 ... *74

ENGINEERS
Demand for engineers stagnates (N) June 15 ... 118
Grads, jobs, pay are changing (table) Mar 1 ... 93
Has engineering demand hit bottom? (table) Apr 15 ... 108
It doesn't pay to be a N. Y. engineer (N) June 15 ... 118
Recruiting: How to bat .540 in the college circuit (chart) Mar 15 ... 165

ENVIRONMENTAL
Air Pollution
Arc furnace aids clean-air fight Apr 1 ... 71
Boston Edison begins $5-million antismog project (N) Mar 15 ... 19
California: Antipollution hotbed (N) Feb 15 ... 85
Can SO_2 be cut from low-S coal? Salt River Project (N) June 15 ... 96
Clean-air rules' feasibility questioned (N) May 1 ... 28
Coping with NO_x: A growing problem. D.W. James (charts) Feb 1 ... 44
Colorado gets strict air code (N) Feb 15 ... 85
Dayton P&L spends $9-million on stack control (N) Feb 1 ... 89
To install hot precipitators (N) May 1 ... *95
Duquesne Light Co. pays $100 fine for air pollution at its Phillips power station (N) Feb 1 ... 89
EW status report: SO_2 removal systems. Development proceeds at a quickening pace. J. Guy Farthing (charts & tables) May 15 ... *34
EPA has published final National Air Quality Standards as required under the Clean Air Act of 1970 (N) June 1 ... 129
EPA lists target pollutants, plant types (N) May 1 ... 95
ESI process, called "Chemical Fixation," may solve utility waste problem (N) Mar 15 ... 157
Four Corners precipitators working tests show (N) June 15 ... 96
KP&L spends $4-million on air control (N) Feb 1 ... 89
New air-pollution device cuts costs (N) Feb 1 ... 89
New cooling-tower design could cut smog May 1 ... *46
New process for removing sulfur dioxide from stack gases (N) Feb 15 ... 20
New SO_2 removal process developing (N) Mar 1 ... 65
Ohio: Lake County (Ohio) Board of Health will take six more months of air samples before it decides on whether or not to institute action against CEI's Eastlake generation plant (N) Feb 15 ... 86
Pasadena loses bid for permission to burn high-sulfur fuel oil (N) Mar 15 ... 20
Pennsylvania Power's precipitators designed to remove 98% of the soot and ash; Pennsylvania changes regulation to 99% (N) Feb 1 ... 89
R&D on low-cost, no-pollution generation (N) Jan 1 ... 74
San Diego G&E on NO_x trail (N) May 1 ... 95
Sensor spots NO2, SO2 in ppb (N) Jan 1 ... 74
SO_2: Are utilities only minor offenders? (N) Mar 1 ... 65
SO_2 removal: Chaos in the cards? (Ed) May 15 ... 7
SO_2 removal permit granted to Illinois Power Co (N) June 15 ... 95
Sulfur-tax plan a stinker, industry says (N) May 1 ... 27
Sulfur tradeoff exudes an odor – Washington Comment May 1 ... 11
Architects call for energy conservation May 15 ... 72
Congress keys on environment as political issues sharpen (N) Apr 1 ... 28
Connecticut bill would set up an alleged environmentally and politically dominated Power Facility Evaluation Council (N) Apr 15 ... 19
Consumers Power Co slide presentation showing the relationship between modern technology and the environment (N) Jan 15 ... 102
Department of National Resources: Words in the wind – Washington Comment Apr 15 ... 11
Designs for 1976 ecology requirements; Costs of air/water treatment at two types of generating units for operation in 1976 (N) (charts) Feb 15 ... 86
EEI marketing conference emphasizes use of electricity as a major part of the solution to pollution (table) Apr 1 ... *69
EEI's W. Donham Crawford at seminar on science and public policy: Crawford hands meat to the bone-pickers (N) Apr 1 ... 81
EW conference explores 'Energy for the '70s' (N) Feb 1-19, (N) Feb 15 ... *29
Environmental bills (N) Mar 1-66, (N) Mar 15 ... 158
Environmental concerns are reasons enough for rate hikes says NARUC's Bloom (N) Jan 15 ... *27
For utilities, the future is a systems problem – An interview with Philip Sporn Jan 1 ... *28
Honey Hollow battle is finally resolved (N) Apr 15 ... 19
Is politics the real polluter? Interview with Dr James H. Wright May 1 ... *32
Kansas utilities form kw/eco-Council (N) Mar 15 ... 158
Luce, Charles F. – "A serious question of whether we ought to be promoting any use of electricity" (N) Jan 1 ... 73
Mercury-in-coal report available (N) June 15 ... 96
Mercury-lamp pollution: How much of a problem? (table) Feb 15 ... 100
National Gilbert Youth Poll – plenty of talk – but little action (N) Jan 15 ... 101
Nixon Budget dumps dollars on air- and water-pollution control programs; bills involve the environment (N) Mar 1 ... 66
Nuclear
AEC implements the National Environmental Policy Act, issuing its own policy (N) Jan 1 ... 71
Consumers Power Co's Midland (Mich.) plant could be a boon to public health (N) Feb 1 ... 117
JCAE omnibus bill enacted into law; a finding of "practical value" is no longer required before A-plants are commercially licensed (N) Jan 1 ... 25
Nuclear growth in the 1970's may be curtailed by fears of contamination (N) Jan 1 ... 71
Population Control through Nuclear Pollution by Arthur R. Tamplin and John W. Gofman – book review Jan 1 ... 37
Ohio task force votes 14-to-10 to ask PUC to restrict advertising by electric utilities, in an effort to retard expanding use of electricity (N) June 1 ... 19
Omaha, Neb., has pollution complaint bureau (N) Feb 1 ... 90
Penelec's fossil plants probed (N) Jan 15 ... 102
Plant siting
California Supreme Court overrules Southern California Edison's Huntington Beach additions (N) June 15 ... 19
Delaware River Basin orders master plans for new sitings (N) May 1 ... 30
EEI sets up plant-siting guidelines (N) May 1 ... 28
Maryland utilities line up solidly against siting bill (N) Mar 15-19, (N) May 1 ... 19
Bill signed into law (N) May 15 ... 20
New York State Legislature introduces siting bill (N) Mar 15 ... 19
Pa. plant-site bill: Who has last word? (N) June 15 ... 95
Plant siting bill
Siting bill a bitter pill for private utilities – Washington Comment Mar 1 ... 11
Administration enters game of siting plants and lines (N) Mar 1 ... 24
Federal arbitration of power plant siting disputes proposed in bill (N) May 1 ... 19
Hearings (N) June 1 ... 19
Long, hot summer could boost one-stop siting – Washington Comment June 15 ... 11
Siting-bill hearings expose industry rift (N) June 15 ... *27
Power's role in urban society needs recognition (Ed) May 1 ... 7
Purchase and legislation aimed at solving long-range plant siting Apr 15 ... 60
Study of power-plant siting in terms of lowest environmental impact (N) Apr 15 ... 19
Pollution-control expenditures: What will business spend to meet standards? (N) June 1 ... 130
Population control: 10 hats and 8 boys (N) Jan 15 ... 102
Radiation-exposure guidelines currently in use have been confirmed with minor revisions (N) Mar 1 ... 105
Recruiting pollution experts? So's EPA (N) June 15 ... 117
Seattle City Light dams are fish-kill targets (N) Feb 15 ... 85
SEE examines industry growth (N) Apr 15 ... 32
System scans environment automatically Apr 1 ... *65
Thermal
ASME symposium tackles thermal discharges (chart) Jan 1 ... *36
AEC to study waste-heat uses to provide food (N) Feb 1 ... 90
California: antipollution hotbed (N)
Catfish farms could be one of the big answers to the problem of handling heated water from power plants (N) Mar 1 ... 66
Commonwealth Edison asks for emergency hearing on Dresden 3 (N) Apr 1 ... 73
Detectors check condenser-water temperatures Feb 1 ... *80
Environmental Protection Agency seeks cooling-water ruling (N) Jan 15 ... 26
Florida Power and Ralston Purina Co do R&D on warm water (N) Apr 15 ... 95
Florida Power automates ocean studies (N) Mar 1 ... 65
Florida P&L: Supreme Court affirms decision of lower courts that gave company right of condemnation over 420 acres for construction of

(Ed) Editorial. *Illustrated. (N) News.

cooling canal at Turkey Point plant (N) Mar 1 .. 20
Florida P&L's Turkey Point plant: suit's key point still unresolved (N) Jan 1-25, (N) Jan 15 26
Agreement near (N) Apr 15 85
Illinois: Quad Cities 1 & 2 must comply with cooling-water limitations (N) May 1 125
Quad Cities nuclear plant uses river diffuser June 1 ..... *63
Northern States Power's Monticello plant
Minnesota slapped down on nuclear standards (N) 25
Minnesota plans to continue setting radiation standards (N) Feb 1 117
Plant has license to operate (N) Mar 1 105
Ohio River study: No harmful effects (N) May 15 94
Radiation: Colorado may join Minnesota's challenge of AEC's authority to set radiation limits (N) Mar 1 105
Radiation rules: White House may ask Congress to halt the controversy over whether Washington or the states should set radiation-emission limits for nuclear power plants (N) Feb 1 ..... *27
A swing away from thermal effects? (N) Jan 15 .. 101
Thermistor chain quickly maps thermal plumes (map) Feb 15 ..... *74
Vepco's Chesterfield Power Station near Richmond "has no significant effect upon the ecology of the James River," according to study (N) Jan 15 101
Utility corridor offers access into urban areas. Bruce Howlett Apr 15 ..... *45
Vepco's Crystal substation wins beauty contest (N) Feb 1 90
Water containing too much air is killing fish on the Columbia and Snake Rivers in Washington (N) Feb 1 90
Water pollution
CEI indicated for allegedly polluting Lake Erie and waterways in northeastern Ohio (N) June 1 . 19
CP&L begins $234,000 ecology study (N) May 1 .. 95
Cathode pinpoints mercury presence (N) Jan 1 .. 74
Duquesne buries fly ash, gets clean water (N) May 15 93
ESI process, called "Chemical Fixation", may solve utility waste problem (N) Mar 15 157
Florida law may hinder fuel shipments (N) Mar 1 . 23
Georgia says it now has the nation's strongest and strictest water-quality control law (N) Apr 15 .. 96
Lake Michigan Enforcement Conference, proposals irk utilities (N) Apr 15 29
A little electricity cleans waste water Mar 15 148
Refuse Act permits: Not enough time? (N) May 15 27
Turkey Point named in sewage plan (N) June 15 .. 96
Utilities involved in 445 H_2O studies, EEI survey shows (N) May 15 93
Westinghouse Power Systems Environmental Systems Dept announces its second School for Environmental Management (N) (table) May 1 96

EUROPE (CONTINENTAL)

Belgium, Germany and Austria's joint effort: fiberglass mat extends heating uses Mar 1 62
Europe gives new heating mat a nudge: radiant ceiling at Belgium's Bernissart Museum and by snow melting on parking-garage ramp at Vienna (Austria) City Hall May 1 ..... *80
Finland to contain Russian reactor in thin-steel shell June 1 62
French and German utilities plan two 1,000-Mw(e) fast breeder units (N) June 1 135
French consider enrichment plants (N) Apr 15 85
German clock has one face telling time and another telling of voltage reductions (N) Mar 1 ..... *25
Italy: Lattice towers have low visual impact (table) Feb 15 56
Sweden: bids on Forsmark reactor (N) Mar 1 108
Sweden: HVDC reinforcement due for Gotland Feb 15 61
Sweden: Wind yields power for telephones Apr 1 .. *64
Sweden installs biggest series capacitor Feb 1 57
Sweden pushes ban on PCBs (N) Mar 1 98
Swedes plan electric car market study June 1 87
USSR: Pinpoint transmission faults by means of data recorded on automatic recording voltmeters or ammeters permanently connected to the circuits Jan 15 49
USSR: Transmission tower supported by pontoons, semicylindrical, with flat bottoms, which "float" the tower on the surface of the tundra Jan 1 .... *42
West German consortium backs electrics June 1 .. *85

EXTRA HIGH VOLTAGE

Arizona PS contracts to Westinghouse for Page-to-Phoenix EHV system (N) Mar 15 177
Canadian HVDC line to test 765 kv for US Jan 1 .. 42
EHV line between New England and Maritime Power Pool operates initially at 115/138 kv. Titus & Kelly (map & chart) May 15 54
Hitachi develops HVDC thyristor (N) Jan 1 ..... *83
Pacific NW-SW intertie see **Interconnections**
Sweden: HVDC reinforcement due for Gotland Feb 15 61
Team aims for HVDC breaker breakthrough (N) Jan 15 106
Test center (N) May 15 19
Three utilities plan computer systems for supervisory control and data acquisition Apr 1 58
UHV joint research program moves into second stage after encouraging results Jan 1 ..... *41
What's happening in substations? – report. U.C. Hayes (charts & tables) June 1 ..... *35-50
Why should you consider 765 kv? (charts & tables) Apr 15 42
Working EHV hot takes training Feb 1 ..... *54

F

FEDERAL POWER COMMISSION

Adopts new accounting and reporting rules for five-year amortization of pollution-control facilities (N) June 15 15
Agencies' revamping debate begins (N) Mar 15 30
Ash panel energy report: FPC, NARUC take dead aim (N) May 15 26
Efficiency list: Duke Power's Marshall plant leads (N) (tables) June 15 30
Examiner approves Pleasant Valley-Mountain Sheep (PVMS) hydroelectric power project Mar 15 84
Guidelines for reducing harm to the environment from electric power transmission facilities (N) Jan 1 73
New National Power Survey not due until mid-1971 (N) Jan 1 20
Plans to revise USA (N) May 15 15
Preliminary analysis: Summer capacity, 1971 (table) Mar 15 82
Utilities to be billed for FPC costs (N) Apr 15 15
Walker, Pinckney C., named to succeed Carl E. Bagge (N) Mar 15 20
Nomination delayed (N) Apr 15 19
What power agencies plan to spend next year (table) Feb 15 28
Who'll fill vacancies at FPC, AEC? – Washington Comment Jan 1 9

FINANCIAL AFFAIRS

Bond market (N) Mar 1-15, (N) Mar 15-15, (N) Apr 15-15, (N) May 1-15, (N) May 15-15, (N) June 1 . 15
Business, profit hopes are rising (tables) Apr 1 75
Business spending: a slow high-riser; plans for capital spending (table) June 1 101
California PUC reports on R&D funding, transmission (N) May 1 30
Capital spending: Businessmen are scheduling a rise of 1½% is expenditures for new plant and equipment in 1971 (N) Feb 1 125
Commerce Dept examines utility-spending trends of future (N) Apr 15 114
Commonwealth Edison's Behnke warns if electric power is rationed, the result will be rising unemployment May 15 87
Construction financing looks better now (N) Feb 15 15
Cooperatives see **Cooperatives**
Distribution of the electric revenue dollar – percent, 1966-1970 (table) Mar 15 66
Dual utilities: proposed new legislation to break up combined gas and electric utilities opposed (N) June 15 31
Ebasco's McCall sees 70% rise in plant costs (chart) Jan 15 41
Electric power system budgets: 1968-72 millions of dollars (table) Mar 15 47
Electric power system capital expenditures millions of dollars, 1960-1971 (table) Mar 15 43
Electric power system spending by ownership thousands of dollars, 1970-1971 (table) Mar 15 .. 46
Electric revenue – millions of dollars (table) Mar 15 62
Electric revenues to hit new peak in '71 (N) Jan 15 15
Electric utility capital spending – thousands of dollars, 1970 (table) Mar 15 44
Electric utility capital spending – thousands of dollars, 1971 (table) Mar 15 45
Electric utility capital spending by regions thousands of dollars, 1970-1971 (table) Mar 15 48
Expenditures for lines and substations – thousands of dollars, 1970-1971 (tables) Mar 15 50
FRB yardstick: power output plays greater role (N) June 1 31
Industry survival is at stake (Ed) Jan 1 5
Interest rates (N) Feb 1-15, (N) Apr 1-15, (N) June 15 15
Investor-owned electric utilities combined balance sheets – millions of dollars, 1966-1970 (tables) Mar 15 65
Investor owned electric utilities income statement – millions of dollars, 1966-1970 (table) Mar 15 66
The money market: Fore and aft (N) Jan 1 13
Money rates: What the experts predict (N) Jan 15 .. 15
The L.E. Myers story: Big and getting bigger (chart) (N) Feb 1 126
NERA survey of state commissions (tables) Feb 15 . *30
The 1971 economy: A year of modest recovery, but no boom (charts) Mar 15 40
Pollution-control expenditures: What will business spend to meet standards? (N) June 1 130
Power agencies: What they plan to spend next year (table) Feb 15 28
Securities – November debt issues sell well (N) Jan 1 13
Security sales by investor-owned electric utilities – thousands of dollars, 1960-1970 (table) Mar 15 63
Sensitivity analysis: Big step in managing fuel cycle costs. Bigge & Stepp (charts & table) Feb 1 48
Transmission and distribution – new lines and substations energized, 1970-1971 (tables) Mar 15 52
Transmission and distribution spending, 1969-1971 (charts) Mar 15 49
US utilities plan 1971 growth 16.6% over last year's record level (charts & tables) Mar 15 42
Utilities need a management renaissance. J.W. Weber (charts) II Jan 1-77, III Jan 15 97
Utilities thrive, say Metcalf and Administration (N) Feb 1 30
Utilities to be billed for FPC costs (N) Apr 15 15
Value – not price (Ed) Mar 1 7
Westinghouse reports record sales, lower net (N) Feb 15 103
Zirconium Technology Corp. gets financial lift from Kawecki Berylco Industries Inc (N) May 1 131

FLY ASH

DP&L spends $9-million on stack control (N) Feb 1 89
Duquesne buries fly ash, gets clean water (N) May 15 93
Tiny spheres from flyash find market June 1 .... *62

FOREIGN TRADE

Canada's Dept of National Revenue begins probe of h-v circuit-breaker dumping (N) Apr 1 113
Dumping: Treasury Dept files notice of "intent to discontinue" dumping investigation involving high-voltage porcelain insulators made by NGK Insulators (N) June 15 123
Foreign-made power transformers won 70% of federal purchases last year (N) Apr 15 121
Japan will remove import controls on steam turbines under 400 Mw (N) Feb 15 103

FUEL

American Public Power Assn's annual convention
Open season on the nation's fuel suppliers (N) May 15 20
Fuel suppliers get heavy flak (N) June 1 ..... *23
APPA undertakes fuel study (N) Jan 1-20, (N) Apr 15 28
Coal: Detroit Ed coal pact runs to year 2002 (N) Mar 15 181
Coal: Longest slurry pipeline to Mojave plant passes tests but supply to Navajo plant will use electrified unit trains Feb 15 ..... *44
Coal, not nuclear, will fuel AEP's two new 1,300-Mw units (N) Apr 1 73
C-E spurs test of power from waste-burning (N) Jan 15 107
Consumption of coal, oil, gas, and nuclear fuel in US generating stations (table) Mar 15 57
Customer concern about power shortage has not changed competitive energy picture – yet Mar 1 .. 61
Demonstration plutonium fuel for Big Rock Point to be made under a cooperative program (N) Feb 15 83
EW status report: SO_2 removal systems. Development proceeds at a quickening pace. J. Guy Farthing (charts & tables) May 15 ..... *34
EW's conference explores 'Energy for the '70's' (N) Feb 1-19, (N) Feb 15 ..... *29
Energy 'cartel,' coal prices questioned by TVA distributors (N) Jan 1 23
Enough fuel now, but problems persist – Washington Comment Jan 15 11
Florida law may hinder fuel shipments (N) Mar 1 .. 23
For utilities, the future is a systems problem – An interview with Philip Sporn Jan 1 ..... *28
Forced-outage rate trends up with fossil-unit size (charts & table) Jan 1 49
Great Britain: Rising fuel costs could push Britain more strongly towards nuclear (N) Mar 15 120
Interstate Energy's pipeline from Sea-Land terminal near Marcus Hook, Pa to deliver residual oil to Pennsylvania P&L's Martins Creek Station (N) May 15 19
Joint action needed to solve fuel problem. B.F. Olson (charts) Jan 15 38
Mercury-in-coal report available (N) June 15 96
Natural-gas fuel cell: "little black box" gets first residential test in Farmington, Conn (N) June 1 .. 19
Niagara Mohawk's Albany Steam Station converted from coal to oil with minimum disruption. Kallenbach & Cotter (chart) June 15 ..... *47
Nuclear fuel see **Nuclear Power**
Pasadena loses bid for permission to burn high-sulfur fuel oil (N) Mar 15 20
Philadelphia Electric Co's computer code meeting the need for fuel-cycle data. Daebeler & Schafer (charts & table) Apr 15 36
Searches into fuels continue (N) Feb 1 28
Sensitivity analysis: Big step in managing fuel cycle costs. Bigge & Stepp (charts & table) Feb 1 48
Sulfur removal see **Environmental – Air Pollution**
Uranium see **Nuclear Power**
West Coast utilities get neurotic about rains, growing pains (N) Jan 1 26
What's next in generation technology? L.G. Hauser (charts & tables) Apr 1 36

G

GENERATORS

Brown Boveri plans "the largest and most advanced turbine-generator repair and test facility in the world" (N) Apr 1 113
Groundbreaking (N) May 15 ..... *109
Bus-duct breakers simplify station layout Apr 15 .. 39
Canada: B.C. expects demand of 6,700 Mw by '75 Mar 15 115
Canadian capacity additions (table) Mar 15 70
Central P&L's Barney M. Davis plant will include circuitous cooling-water loop (map) Apr 1 ..... *38
Cincinnati G&E switches to centrifugals for station air Mar 1 ..... *39

Colombia: mobile, diesel-powered generator sets for installation at a hydroelectric project Apr 1 .... *61
C-E spurs test of power from waste-burning (N) Jan 15 107
Con Edison's "Big Allis:" Loss on start-up after repair is cause for "great concern" (N) Feb 15 .. 19
Back in service (N) June 15 19
Con Edison's drive for capacity jolted (N) May 1 .. 19
Control of steam units aids stability: Northeast looks at fast closing of intercept valves and full-load rejection (charts) Mar 15 80
Cost program recognizes forced outages: digital computer program develops generation production costs for use in system planning studies (chart) June 1 .... *68
Customer concern about power shortage has not changed competitive energy picture – yet Mar 1 .. 61
Designs for 1976 ecology requirements; Costs of air/water treatment at two types of generating units for operation in 1976 (N) (charts) Feb 15 86
Dry cooling tower shows promise (charts & table) June 1 .... *60
EEI's W. Donham Crawford at seminar on science and public policy: Crawford hands meat to the bone-pickers (N) Apr 1 81
EW's conference explores 'Energy for the '70's' (N) Feb 1-19, (N) Feb 15 .... *29
EW status report: SO_2 removal systems. Development proceeds at a quickening pace. J. Guy Farthing (charts & tables) May 15 .... *34
Energy use: Basic to economic growth – demographic methods compiled by F. Felix (charts) Jan 15 36
FPC's view: Summer capacity, 1971 (table) Mar 15 82
51 large generating units to be built by joint participation (table) Mar 15 57
Forced-outage rate trends up with fossil-unit size (charts & table) Jan 1 49
Future electric generating capability additions by region, Mw (table) Mar 15 56
GE plans new generator plant (N) Feb 15 .... *104
Generating-plant additions scheduled at a record 37,187 Mw in 1971 (charts & tables) Mar 15 54
Hydro power see **Hydro Stations**
Indiana & Michigan Electric Breed plant updates bolt-heater design. L.W. Mitchel Mar 1 .... *36
Installed capacity of utility generating plants by states & types (table) Mar 15 59
National Power Survey, Part II 1970: Nuclear rise faster than anticipated (N) May 1 30
Natural-gas fuel cell: "little black box" gets first residential test in Farmington, Conn (N) June 1 .. 19
New York: barge-mounted gas-turbine power plant for producing peaking power towed by sea to N.Y. May 15 .... *63
New York PSC initiates study of load shedding and priorities (N) Jan 15-19, (N) Mar 1-19, (N) May 1 29
Nitrogen oxide emissions: Coping with NO_x: A growing problem. D.W. James (charts) Feb 1 44
North Central Power Study: Upper Midwest study sees 1,000-Mw units Mar 15 115
Nuclear plants see **Nuclear Power**
Ohio Power Co's service area anticipates no power problems (N) Apr 1 19
Oklahoma utility buys first Westinghouse "PACE" plant (N) June 15 .... *128
Pennsylvania's Homer City plant: adding third unit is subject of discussion (N) June 15 19
Pacific G&E will build spray-cooling canal system for Pittsburg (Calif) generating station (N) May 15 .. 20
Perspective on generation: Public Service E&G investigating the feasibility of nuclear plants in the Atlantic Ocean June 1 .... *63
Perspective on generation: US breeder reactor program Feb 15-47, Apr 1 39
PASNY plans a 1,000-Mw, pumped-storage plant to supply New York City (N) Apr 15 19
Picks tentative site for new 1000-Mw pumped-storage plant (N) June 1 19
Precipitator replaced in record time at Illinois Power Co's Wood River Steam Station Jan 1 .... *34
Reliability bills see **Legislation**
Rotating units will supply system vars for Philadelphia Electric Co. A.J. Kelleher (charts) Feb 1 .. 68
SEFOR is providing breeder's safety. Noble & Kruger (charts & tables) June 15 44
Siting: NY county official suggests siting troika (N) Feb 1 30
Siting see also **Environmental – Plant siting**
South Carolina E&G's power complex to combine nuclear and hydro (map) Mar 15 .... *83
Steam stations see **Steam Stations**
Study favors plants in outer urban area (charts) Jan 15 56
Sweden: Wind yields power for telephones Apr 1 .. *64
Three adjoining states Montana, Wyoming and North Dakota impede public electric energy districts (N) Mar 1 26
Tube Turns, power-piping maker, aims for bigger chunk of energy market (N) May 1 .... *136
Turbines see **Turbines**
Utility building can't stop for a brief recession (Ed) Mar 15 7
West Coast utilities get neurotic about rains, growing pains (N) Jan 1 26
Westinghouse computer programs give energy output and cost Mar 15 114
What's next in generation technology? L.G. Hauser (charts & tables) Apr 1 36

H

HEATING, COMMERCIAL; HEATING, INDUSTRIAL; HEATING, RESIDENTIAL

see **Electric Energy Marketing** ....

HYDRO STATIONS

AEP's Blue Ridge pumped-storage development would become federal project (N) Jan 15 19
Canada: 65 gigantic earthmovers build British Columbia Hydro's Mica Dam Feb 1 .... *76
Central Nebraska's hydro control system uses programmable remotes May 15 .... *56
FPC must review 43 hydro licenses in fiscal 1971-76 period (N) Jan 1 19
Grand Coulee Dam: Six concrete bucket transfer cars to shift concrete at Coulee Dam Mar 15 .... *142
Northeast Utilities pumped-storage-site search (N) May 1 19
Northern States' license renewal for Chippewa Falls hydro plant challenged by Wisconsin Resource Conservation Council (N) Apr 1 19
Pacific Northwest utilities spilling water and in some cases selling off surplus energy in anticipation of heavy runoffs (N) Mar 15 120
Portland, Ore, may install two hydro plants in its Bull Run watershed (N) May 1 19
PASNY plans a 1,000-Mw, pumped-storage plant to supply New York City (N) Apr 15 19
Picks tentative site for new 1000-Mw pumped-storage plant (N) June 1 19
Snake River project
Northwest utilities urge FPC to "strike a balance" (N) Jan 15 19
FPC examiner approves Pleasant Valley-Mountain Sheep (PVMS) hydro project Mar 15 84
South Carolina E&G's power complex to combine nuclear and hydro (map) Mar 15 .... *83
Water containing too much air is killing fish on the Columbia and Snake Rivers in Washington (N) Feb 1 90
West Coast utilities get neurotic about rains, growing pains (N) Jan 1 26

I

INDUSTRIAL APPLICATIONS

Arc furnace aids clean-air fight Apr 1 71
Boston's South Street Complex: prototype "moving walk" is proposed Mar 15 .... *146
Concrete heaters use off-peak power Jan 1 .... *68
'Detective' avoids stainless-tube mixup (N) Mar 15 .. *179
Electric high-clearance tractor development (N) Mar 15 20
Electric cars
EVC/LIA study points to electric-truck promotion (tables) Jan 15 80
EVC seeks bids on electric vehicles Mar 15 149
Electric vehicles on the move worldwide June 1 .. 84
Elec-Trak: How is it doing? June 1 .... *84
... And a German utility backs electrics June 1 *85
Japanese government takes electric car lead June 1 86
Swedes plan electric car market study June 1 .. 87
GM has doubts on electric car; utility optimistic (N) Apr 1 27
Swift process: A little electricity cleans waste water Mar 15 148

INDUSTRIAL RELATIONS

see **Employee Training & Welfare** ....

INSULATING OILS

Lab on wheels tests transformer oil at site Jan 1 .. *57
35-ft trailers handle EHV oil filling Mar 1 .... *56

INSULATION

Flashover-free insulators in preproduction testing phase (N) Apr 1 .... *118
Ontario Hydro looks at PVC-coated cable for slab casting in Toronto apartment suites May 1 82
"Porcelain Insulators and How They Grew" by Brent Mills – book review Jan 1 42
Program analyzes cable thermal parameters (chart) Mar 15 101
Superior service at same price billed for new cable shielding (N) May 1 .... *134
Tiny spheres from flyash find market June 1 .... *62

INTERCONNECTIONS

Con Edison resumes discussions with Hydro Quebec to explore buying part of output (N) May 15 19
EHV line between New England and Maritime Power Pool operates initially at 115/138 kv. Titus & Kelly (map & chart) May 15 54
Evaluating system reserve with probability analysis. R.X. French (charts & table) Apr 1 56
Florida Power Corp bid to require the Utilities Dept of Gainesville, Fla, to make an annual payment for its interconnection: High court hears oral argument on tie-in (N) Mar 15 30
Supreme Court rules munis don't have to pay special assessments (N) June 15 28
Mutual-aid pacts are seen as adequate by NERC committee, but further action is recommended to strengthen reliability (table) Mar 1 48
NERC lists progress toward reliable bulk power (chart) June 1 70
New England needs a single, integrated bulk power system (N) Feb 15 19
NY Pool adds planning staff June 15 68
New York PSC hopes to coordinate generation and transmission in the New York Power Pool to minimize spot load shedding (N) Mar 1 19
Pacific Northwest-Southwest Intertie: line failure due to extreme icing conditions Jan 15 .... *49
Reliability: ECAR's new liaison committee will give a voice to 374 smaller systems in the East North Central Region (N) Feb 15 19
Reliability: Seven federal-state regional coordination groups set up (N) Jan 15 19
Reliability bills see **Legislation**
REA's Hamil says all electric utilities – investor-owned, public, or co-op – must cooperate (N) June 1 19

L

LABOR

see also **Employee Training & Welfare** ....
Boston Edison and UWUA Local 369 reenters negotiations (N) Apr 15 20
CEGB cleaning up after worker slowdown (N) Jan 1 .... *24
Commonwealth Edison's Behnke warns if electric power is rationed, the result will be rising unemployment May 15 87
Construction: A major challenge for the '70s (Ed) Apr 1 7
Duke Power – major civil rights case (N) Jan 1 .. 24
Job tests ruled illegal (N) Apr 1-19, (N) June 15 .. 117
Ebasco's McCall sees 70% rise in plant costs (chart) Jan 15 41
Employment continued to climb in the nuclear 1 industry last year (N) Mar 1 105
Hanford closing hits Northwest (N) Feb 15 27
WPPSS will furlough 29 of the 48 employees as result of the N reactor shutdown (N) Apr 1 73
Jersey Central P&L's Oyster Creek construction dispute: court rules Local 825 of the Operating Engineers had engaged in an illegal secondary boycott (N) Mar 1 105
Missouri PS's strike still on; management does maintenance work (N) May 1 .... *29
The Negro in Public Utility Industries – group job survey of utilities – including electric May 1 90
State-by-state roundup shows unions win 58% of all NLRB elections (N, map) June 15 118
Strike-battered Consumers Power calls UWUA 'out of ball park' (N) June 15 .... *30
Westinghouse tries to trim strike delays (N) Feb 15 104

LATIN AMERICA

Colombia: mobile, diesel-powered generator set for installation at a hydroelectric project Apr 1 .... *61

LEGISLATION

California bill would prohibit all advertising and sales promotion by investor-owned utilities (electric, gas, and telephone) except advertising related to safety and consumer protection May 15 .. 71
Congress keys on environment as political issues sharpen (N) Apr 1 28
Connecticut bill would set up an alleged environmentally and politically dominated Power Facility Evaluation Council (N) Apr 15 19
Department of National Resources: Words in the wind – Washington Comment Apr 15 11
Dual utilities: Proposed new legislation to break up combined gas and electric utilities opposed (N) June 15 31
EEI's W. Donham Crawford at seminar on science and public policy: Crawford hands meat to the bone-pickers (N) Apr 1 81
Environmental bills (N) Mar 1-66, (N) Mar 15 158
Faster tax write-offs get strong government push (N) May 15 25
Florida law may hinder fuel shipments (N) Mar 1 .. 23
Georgia says it now has the nation's strongest and strictest water-quality control law (N) Apr 15 .. 96
Geothermal Steam Bill signed into law (N) Jan 15 .. 25
Indiana co-ops offer hometown "news" recording service free to legislators of the Indiana General Assembly (N) Feb 15 27
Iowa House passes bill to tax rural electric co-ops (N) Apr 1 20
It's time for truth in criticism (Ed) June 15 7
JCAE omnibus bill enacted into law: A finding of "practical value" is no longer required before A-plants are commercially licensed (N) Jan 1 25
Maine senate kills two transmission bills (N) June 15 20
Maryland utilities line up solidly against siting (N) Mar 15-19, (N) May 1 19
Bill signed into law (N) May 15 20
Michigan State Rep E.D. O'Brien attacks utility gift giving (N) May 15 15
New York State Legislature introduces siting bill (N) Mar 15 19
NY State Legislature: Pro, anti-utility bills in hopper (N) Apr 1 25
Oklahoma: Another private vs public fight looms (N) Apr 1 19
Oklahoma State controls: Co-ops' views (N) Apr 15 30
Pa. plant-site bill: Who has last work? (N) June 15 95
Plant siting: EEI sets up plant-siting guidelines (N)

May 1 28
Plant siting bill
Siting bill a bitter pill for private utilities – Washington Comment Mar 1 11
Administration enters game of siting plants and lines (N) Mar 1 24
Federal arbitration of power plant siting disputes proposed in bill (N) May 1 19
Hearings (N) June 1 19
Long, hot summer could boost one-stop siting – Washington Comment June 15 11
Siting-bill hearings expose industry rift (N) June 15 . . . . . *27
Power's role in urban society needs recognition (Ed) May 1 7
Three adjoining states Montana, Wyoming and North Dakota impede public electric energy districts (N) Mar 1 26

LIGHTING, COMMERCIAL; LIGHTING, INDUSTRIAL; LIGHTING, RESIDENTIAL
see **Electric Energy Marketing** . . . . . .

LIGHTING, STREET
Breakaway streetlight bases really do Apr 1 . . . . . *49
Bridge lighting for Canada's Dinsmoor Bridge uses wall-mounted fixture May 15 . . . . . *71
Enclosure protects security lighting Feb 15 . . . . . *100
Joslyn will phase out its line of street-lighting products (N) June 15 123
Self-contained, trailer-mounted Fermont Floodlighter Jan 1 . . . . . *57

LITIGATION
Alabama Power files $600,000 suit against ten insurance companies (N) Mar 15 20
AEP-Columbus & Southern Ohio Electric merger
AEP subpoena against Con Ed's Roddis quashed by SEC order (N) Jan 15 28
Why has AEP President Cook been subpoenaed by SEC lawyers? (N) Mar 1 19
SEC asks hearing examiner to uphold subpoena of Cook (N) Apr 15 20
CEI asks to cut tie to municipal light plant because of unpaid bills (N) June 15 20
CEI indicted for allegedly polluting Lake Erie and waterways in northeastern Ohio (N) June 1 19
Duke Power – major civil rights case (N) Jan 1 24
Job tests ruled illegal (N) Apr 1-19, (N) June 15 117
Energy 'cartel,' coal prices questioned by TVA distributors (N) Jan 1 23
Eugene (Ore) Water & Electric commissioners sued to repay the $13,300 they spent for promoting nuclear proposal (N) June 1 135
Florida: Supreme Court affirms decision of lower courts that gave Florida P&L the right of condemnation over 420 acres for construction of a cooling canal at Turkey Point plant (N) Mar 1 20
Florida P&L's Turkey Point plant: suit's key point still unresolved (N) Jan 1-25, (N) Jan 15 26
Agreement near (N) Apr 15 85
Florida Power Corp bid to require the utilities Dept of Gainesville to make annual payment for its interconnection: High court hears oral argument on tie-in (N) Mar 15 30
Supreme Court rules munis don't have to pay special assessments (N) June 15 28
Georgia Power wins antitrust suit (N) May 15 28
Iowa-Illinois G&E and Iowa P&L merger see **Corporate Changes**
Jersey Central P&L's Oyster Creek construction dispute: court rules Local 825 of the Operating Engineers had engaged in an illegal secondary boycott (N) Mar 1 105
Minnesota State Supreme Court Ruling that electricity is a marketable product hinges on a further ruling: Is generation equipment actually personal property? (N) Feb 1 28
Otter Tail Power Co: Supreme Court upholds FPC right to order investor-owned utilities to provide emergency backup to municipals (N) Apr 1 19
Pennsylvania PUC Chairman George Bloom is being sued by Peoples Cab Co of Pittsburgh (N) Jan 15 20
SEC upheld in barring holding companies from financing housing projects (N) May 15 20

LOAD CHARACTERISTICS
Can you really optimize URD design? R.F. Cook & others (tables) Jan 1 . . . . . *38
CEGB winter loads go on huge computer Mar 1 . . . . . *52
Central Vermont PS will test residential load management (N) May 1 19
Con Edison seeks 10% load cut now, maybe 10% more later; Luce: 'It's sanity' (N) June 1 30
Control of steam units aids stability: Northeast looks at fast closing of intercept valves and full-load rejection (charts) Mar 15 80
Electrical World survey: Growth of 4.1% in peaks reported by 86 systems (map, tables) Mar 15 112
Evaluating system reserve with probability analysis. R.K. French (charts & table) Apr 1 56
'Hot summer' seen for Midwest and East (N) June 15 28
New York PSC initiates study of load shedding and priorities (N) Jan 15-19, (N) Mar 1-19, (N) May 1 29
North Carolina systems ordered to report changes in bulk power operation Apr 15 60
Off-peak kwhr are used for heat by day at New Hampshire Insurance Co home office building Mar 1 . . . . . *60
Power Technologies method speeds analysis of system transients (chart) Apr 15 61
Radio control aids load management at Northeast Utilities. Douglas Morton (map) Apr 15 . . . . . *58
Rotating units will supply system vars for Philadelphia Electric Co. A.J. Kelleher (charts) Feb 1 68
Study favors plants in outer urban area (charts) Jan 15 56
Utility building can't stop for a brief recession (Ed) Mar 15 7

M

MAINTENANCE
Black Hills P&L's vehicle maneuvers in rugged Black Hills Apr 1 . . . . . *60
Brown Boveri plans "the largest and most advanced turbine-generator repair and test facility in the world" (N) Apr 1 113
Groundbreaking (N) May 15 . . . . . *109
Electric plant maintenance expenses thousands of dollars, 1970-1971 (table) Mar 15 60
EHV: Working EHV hot takes training Feb 1 . . . . . *54
Indiana & Michigan Electric Breed plant updates bolt-heater design. L.W. Mitchel Mar 1 . . . . . *36
Integrated airborne service, Multiscan, uses photography, infrared, and CCTV (map) May 15 . . . . . *49
Lead-calcium batteries minimize telecommunications maintenance May 15 . . . . . *65
Magnet finds open meter coil easily May 15 50
Mobile 1-man unit reaches jobs 46 ft up Jan 15 . . . . . *65
Pacific Northwest-Southwest Intertie: line failure due to extreme icing condition Jan 15 . . . . . *49
Tacoma City Light electric rig eases inspection Apr 1 . . . . . *60
35-ft trailers handle EHV oil filling Mar 1 . . . . . *56
USSR: Pinpoint transmission faults by means of data recorded on automatic recording voltmeters or ammeters permanently connected to the circuits Jan 15 49
Unit overhaul scheduled with program called MSP Apr 1 58
Vehicle-maintenance conference highlights emission control, chain-drive lubricantion May 1 70
Versatile units fight construction costs May 1 . . . . . *70

MANAGEMENT
Business, profit hopes are rising (tables) Apr 1 75
Business spending: a slow high-riser; plans for capital spending (table) June 1 101
Central Moloney re-plots sales territory (N) May 15 112
Commonwealth Edison's Behnke warns if electric power is rationed, the result will be rising unemployment May 15 87
Construction: A major challenge for the '70s (Ed) Apr 1 7
Delphi method of technological forecasting Oracle for marketing men? May 1 89
Detroit Edison's annual stockholders meeting: F.G. Verbecke introduces "dump-the-elders proposal"; Cisler stays on, but a movement smolders May 15 . . . . . *87
Detroit Edison's stockholder's proposal that would oust Walker L. Cisler is expected to fail (N) Apr 15 20
Florida P&L's material and supplies viewed instantly with video screen and a typewriter keyboard Jan 15 . . . . . *66
GE sets up new N-operations training service (N) Feb 1 127
GPU Service Corp gets SEC sanction (N) June 1 20
Industry survival is at stake (Ed) Jan 1 5
"Management Controls for Computer Processing" by Michael J. Rauseo Apr 15 108
Missouri PS's strike still on; management does maintenance work (N) May 1 . . . . . *29
The L.E. Myers story: Big and getting bigger (chart) (N) Feb 1 126
NOPSI VP is EUMI's 2,500th graduate Feb 1 . . . . . *122
NY Pool adds planning staff June 15 68
Nuclear Fuel Services Inc relocates as part of expansion plan (N) Jan 15 108
Potomac Electric Power seeks new president (N) Jan 1 19
Thompson, W. Reid, takes over as president March 1: Will new blood bring new pep to Pepco? – Washington Comment Feb 15 11
View from the top: Energy and technology will solve dilemma – interview with W. Reid Thompson June 15 . . . . . *36
Psychological character of industrial managers: Better managers run to daylight May 1 90
Recruiting pollution experts? So's EPA (N) June 15 117
S&C occupies new manufacturing plant (N) Jan 1 . . . . . *83
Sensitivity analysis: Big step in managing fuel cycle costs. Bigge & Stepp (charts & table) Feb 1 48
Tube Turns, power-piping maker, aims for bigger chunk of energy market (N) May 1 . . . . . *136
Utilities need a management renaissance. J.W. Weber (charts) II Jan 1-77, III Jan 15 97
Utility diversification probed (N) May 1 15
Utility executives search the '70s Pt 1 Feb 1-95, Pt 2 Feb 15 77
Utility marketing: Jobs in jeopardy? Apr 15 107
Western Systems Coordinating Council forms technical staff Jan 15 58
Westinghouse Power Systems Environmental Systems Dept announces its second School for Environmental Management (N) (table) May 1 96

MATERIALS HANDLING
Bagge calls for any railroad-aid program that will assure an adequate supply of "desperately needed" coal hopper cars (N) Mar 15 177
Boiler drum raised by hoists, cranes Feb 15 . . . . . *70
Bucket truck-crane has 70-ft reach Jan 1 . . . . . *56
Coal: longest slurry pipeline to Mojave plant passes tests but supply to Navajo plant will use electrified unit trains Feb 15 . . . . . *44
Colombia: mobile, diesel-powered generator set for installation at hydro project Apr 1 . . . . . *61
Columbus & Southern Ohio Electric Co, crane handles poles and reels Feb 15 . . . . . *69
Compartmentalized shipping/storage unit can hold 40,000 lb of small turbine parts (N) Mar 15 . . . . . *183
Crane-control console swivels on 12-in ball bearing Mar 1 . . . . . *57
Depleted uranium to shield spent N-fuel Feb 1 127
510-ton crane on way to Pasny May 1 . . . . . *44
Florida law may hinder fuel shipments (N) Mar 1 23
Florida P&L's material and supplies viewed instantly with video screen and a typewriter keyboard Jan 15 . . . . . *66
Freight car reduces costs in cable-reel transport, handling June 1 . . . . . *80
Hydraulic crane eases operator's job Jan 1 56
Illinois Power's effective planning doubles storeroom capacity June 15 . . . . . *61
Minnesota Power & Light's Clay Boswell station facilities will unload unit-train coal (map) Mar 1 . . . . . *38
New York: barge-mounted gas-turbine power plant for producing peaking power towed by sea to NY May 15 . . . . . *63
Ohio Edison Co: Ground assembly, high lift cut precipitator schedules by six months at R.E. Burger Power Plant May 1 . . . . . *42
Philadelphia Electric Co's second nuclear installation at Peach Bottom: 40-mile move planned for three years Feb 15 . . . . . *68
Radio signal adds safety to crane operations May 1 . . . . . *75
Rail car and crane deliver, set stator at Georgia Power Co's Plant Bowen Jan 15 . . . . . *64
Rough-terrain crane cuts rehandling 10% to 15% to meet deadlines at Wisconsin PS's Kewaunee nuclear plant June 15 . . . . . *74
Trailer platform speeds transformer handling for Lilco Apr 15 . . . . . *65
Unit-train economics optimized with nighttime lighting. C.H. Davison June 15 . . . . . *48

METERS & MEASURING
Carrier-frequency tuning easier at SCE. Acton & Rhinehart May 15 . . . . . *46
GE survey finds master meters on upswing. M.C. Neuhoff (charts & table) Mar 1 44
Magnet finds open meter coil easily May 15 50
Mobile-home-park meters spark dispute Mar 15 148
One-wire supervisory system at SCE's Mesa substation may slash control-wiring costs Apr 1 . . . . . *46
PS of Oklahoma installs first meter, SAM, to monitor system status May 1 . . . . . *65
Sangamo gives hypo to auto meter reading (N) Jan 1 . . . . . *82
A day with a Purdax-style meter reader (N) Jan 1 . . . . . *82
Cilco signs for first Sangamo automatic meter-reading system (N) Apr 15 20
Westinghouse completes remote meter-reading test Mar 1 47

MICROWAVE
see **Communications, Controls** . . . . . .

MODELS
Niagara Mohawk's indoor pole line helps linemen to survive Feb 1 . . . . . *61
Simplified model aids system stability study Feb 15 65

MUNICIPAL SYSTEMS
Florida Power Corp bid to require the Utilities Dept of Gainesville to make an annual payment for its interconnection: High Court hears oral agrument on tie-in (N) Mar 15 30
Supreme Court rules minis don't have to pay special assessments (N) June 15 28
Kansas utilities form kw/eco-Council (N) Mar 15 158
Ohio munis, in trouble, want pools, joint plant ventures (N) Feb 1 29
SMUD's post-analysis cuts customer outages Feb 1 57

N

NATURAL RESOURCES
Catfish farms could be one of the big answers to the problem of handling heated water from power plants (N) Mar 1 66
Department of National Resources: Words in the wind – Washington Comment Apr 15 11
Florida Power automates ocean studies (N) Mar 1 65
Honey Hollow battle is finally resolved (N) Apr 15 19
Seattle City Light dams are fish-kill targets (N) Feb 15 85
West Virginia strip-mining abolitionists lose a round (N) Apr 15 95

NUCLEAR POWER
see also **Environmental** . . . . . .
B&W's N-fuel plant makes 1st shipment (N) Mar 15 . . . . . *182
Breeder reactor program
EEI policy committee supports the breeder program (N) Jan 1 71
Fast Flux Test Facility Program: Will utilities back the fast breeder – Washington Comment Feb 1 11
Perspective on generation: US breeder reactor pro-

gram Feb 15-47, Apr 1 ... 39
LMFBR breeder program (N) Mar 15 ... 120
With fusions coming, are breeders necessary? – Washington Comment Apr 1 ... 11
The breeder: Everybody disowns the baby – Washington Comment May 15 ... 11
AEC names two committees of utility executives to advise on plans for breeder reactor demonstration-plant program (N) May 15 ... 27
Breeder development (N) May 15 ... 79
LMFBR demonstration plant joint venture suggested by Rep Holifield (N) May 15 ... 79
American Power Conference: Holifield proposes joint venture to build LMFBR (N, charts) June 1 ... *26
Breeder reactor program will be opposed by Scientists' Institute for Public Information (N) June 15 ... 81
Canada: CANDU-BLW unit: first light-water-cooled natural-uranium reactor (N) May 1 ... 125
Canada: Ontario Hydro starts up the first 540-Mw Pickering unit (N) Apr 1 ... 73
Carolina P&L orders four 900-Mw reactors (N) May 15 ... 79
Cincinnati G&E awards contract to build 840-Mw nuclear plant (N) Apr 1 ... 19
C-E shifts reactor internals fabrication to new, larger plant (N) Apr 15 ... *115
Commonwealth Edison buys two more nuclear units (N) May 15 ... 79
Commonwealth Edison places reload fuel order with United Nuclear (N) June 15 ... 81
Commonwealth Edison's Dresden units
Unit 1 has pipe crack (N) Feb 1 ... 117
Emergency hearing on Dresden 3 asked (N) Apr 1 ... 73
Dresden 2 down for fuel changes; Dresden 3 may help (N) May 1 ... 125
Dresden 2 and 3 may operate at a combined rate of 1,000 Mw this summer (N) June 1 ... 135
Connecticut Yankee plant technical support shifted (N) Mar 15 ... 120
Con Edison returns 260-Mw Indian Point 1 nuclear unit to service (N) Mar 1-19, (N) Mar 15 ... 119
Con Edison will lease two cores from CNA Nuclear (N) June 15 ... 81
Consumers Power Co's Midland (Mich.) plant could be a boon to public health (N) Feb 1 ... 117
Consumers Power's Palisades nuclear plant will add cooling towers and an essentially zero-release radwaste system (N) Apr 1 ... 19
Cornell University claims a major advance toward controlled nuclear fusion (N) Mar 15 ... 120
Davis-Besse plant: Strong arguments, pro and con (N) Feb 1 ... 118
Demonstration plutonium fuel for Big Rock Point to be made under a cooperative program (N) Feb 15 ... 83
Depleted uranium to shield spent N-fuel (N) Feb 1 ... 127
Diamond Power pushes quality in reactor controls (N) Mar 1 ... *99
EW conference explores 'Energy for the 70's' (N) Feb 1-19, (N) Feb 15 ... *29
Enrichment plants considered by French and Canadians (N) Apr 15 ... 85
Eugene (Ore) Water & Electric commissioners sued to repay the $13,300 they spent for promoting nuclear proposal (N) June 1 ... 135
Finland to contain Russian reactor in thin-steel shell June 1 ... 62
Forced-outage rate trends up with fossil-unit size (charts & table) Jan 1 ... 49
French and German utilities plan two 1,000-Mw(e) fast breeder units (N) June 1 ... 135
GE sets up new N-operations training service (N) Feb 1 ... 127
Great Britain: Berkeley nuclear station sabotaged (N) June 1 ... 19
Great Britain: Rising fuel costs could push Britain more strongly towards nuclear (N) Mar 15 ... 120
Iowa EL&P's Chairman Arnold says nuclear costs save money (N) May 15 ... 79
JCAE omnibus bill enacted into law; A finding of "practical value" is no longer required before A-plants are commercially licensed (N) Jan 1 ... 25
Licensing: AEC adopts revised license-fee schedule (N) Feb 1 ... 118
Licensing: AEC's proposed changes in licensing process: Industry comments are favorable (N) Feb 1 ... 118
Licensing: Boston Edison's Pilgrim Station – "early notice" may speed operating license (N) June 1 ... 135
Maryland Calvert Cliffs plant: Dr. C Tompkins, expert on radiation, endorses plant (N) Jan 15 ... 75
Maryland Calvert Cliffs plant to get simulator-trainer (N) Mar 15 ... 182
Medical doctors oppose a nuclear moratorium (N) May 15 ... 79
National Power Survey, Part II 1970: Nuclear rise faster than anticipated (N) May 1 ... 30
New standard for containment-structure penetration assemblies (N) May 1 ... 125
New York State Electric & Gas may reactivate its nuclear plans (N) Feb 15 ... 83
Northeast Utilities' Millstone Point 2 receives AEC construction permit (N) Jan 15 ... 75
Northern States Power's Monticello plant see **Environmental – Thermal**
Nuclear fuel leasing is finally arriving (N) June 15 ... 81
Nuclear fuel sensitivity analysis: Big step in managing fuel cycle costs. Bigge & Stepp (charts & table) Feb 1 ... 48
Nuclear growth in the 1970's may be curtailed by fears of contamination (N) Jan 1 ... 71
Nuclear power plants controversy: Teller and Tofman (N) Apr 1 ... 73
Off-gas systems: considerable market activity reported (N) Jan 15 ... 75
Oregon newspaper finds support for the Trojan nuclear plant (N) Feb 1 ... 117
Pacific G&E orders two 1,100-Mw boiling-water reactors (N) Mar 15 ... 119
Pacific G&E's Diablo Canyon 2, receives AEC construction permit (N) Jan 15 ... 75
Pennsylvania State Senate probe committee finds six "areas of concern" (N) Mar 15 ... 119
Perspective on generation: Public Service E&G investigating the feasibility of nuclear plants in the Atlantic Ocean June 1 ... *63
Philadelphia Electric Co's computer code meeting the need for fuel-cycle data. Daebler & Schafer (charts & table) Apr 15 ... 36
Philadelphia Electric's Limerick Station gets go-ahead (N) Feb 15 ... 83
"Population Control through Nuclear Pollution" by Arthur R. Tamplin and John W. Gofman – book review Jan 1 ... 37
Portland General Electric's visitor information center: putting the public inside the atom (N) May 15 ... *26
President Nixon's cabinet hears about nation's nuclear power supply (N) May 1 ... 19
Public Service E&G says nuclear power will be the principal generation source for the next two or three decades (N) Feb 1 ... 118
Public Service E&G's Salem Nuclear Station: Concrete A-frames cast on site June 15 ... *58
Radiation: Sternglass turns his guns on reprocessing plants (N) Jan 15 ... 75
Radiation rules: White House may ask Congress to halt the controversy over whether Washington or the states should set radiation-emission limits for nuclear power plants (N) Feb 1 ... *27
Restudy of emergency core-cooling systems may delay several plants (N) June 15 ... 81
SEFOR is providing breeder's safety. Noble & Kruger (charts & tables) June 15 ... 44
Seven-year lead time seen for light-water units (charts) May 1 ... 45
Siting: Pacific G&E extends option to purchase 7,000 acres on the Pacific coast near Santa Cruz for a potential nuclear site (N) Apr 15 ... 85
Siting: Pacific G&E walks softly in N-plant planning (N) Jan 15 ... 110
Siting: TVA Board authorizes the agency to acquire several future sites (N) Apr 15 ... 85
Siting see also **Environmental** – Plant siting
South Carolina E&G's power complex to combine nuclear and hydro (map) Mar 15 ... *83
Sweden: bids on Forsmark reactor (N) Mar 1 ... 108
TVA's Watts Bar nuclear plant
Brown Boveri low bidder on turbine-generators (N) Jan 15 ... 105
Contract to Westinghouse (N) Feb 15 ... 103
Contract to Brown Boveri (N) June 15 ... 123
US utilities will have 150,000 Mw of nuclear generation on line by 1980 (N) June 1 ... 135
Uranium: Southern California Edison will explore for uranium (N) Apr 15 ... 85
Uranium finds during 1970 boost US reserves by 42,000 tons of U_3O_8 (N) June 1 ... 135
Virginia E&P orders two reactors (N) May 15 ... 79
Washington Public Power evaluating bids on reactor for station at Hanford, Wash. (N) Feb 15 ... 103
Westinghouse formally withdraws from the turnkey nuclear business (N) Jan 1 ... 71
Westinghouse-Japanese N-fuel joint venture plans (N) Apr 15 ... 113
Wisconsin-Michigan Power's Point Beach nuclear plant: Dollies, barges, cranes assemble plant Mar 15 ... *140
Wisconsin Electric Power queries AEC's deletion of automatic transfer in control circuitry of Point Beach plant (N) June 1 ... 135

O

OUTAGES

Con Edison's "Big Allis:" Loss on start-up after repair is cause for "great concern" (N) Feb 15 ... 19
Cost program recognizes forced outages: digital computer program develops generation production costs for use in system planning studies (chart) June 1 ... *68
East Coast voltage is cut pool-wide in early February (N) Feb 15 ... 19
Florida and Hawaii service interrupted by wind and lightning Mar 1 ... *50
Forced-outage rate trends up with fossil-unit size (charts & table) Jan 1 ... 49
SMUD's post analysis cuts customer outages Feb 1 ... 57
Unit forced outages lead to load loss in N.Y.C. and reduced voltage in Chicago Mar 1 ... 50

P

POLES

ASCE Task Committee on Steel Transmission Poles expands membership Apr 15 ... 46
Breakaway streetlight bases really do Apr 1 ... *49
Niagara Mohawk's indoor pole line helps linemen to survive Feb 1 ... *61
Puget Sound P&L's Renton Valley Line: Hollow concrete piling for tower foundation solves unstable soil conditions May 1 ... *54

POWER POLICY

Are you ready to accept a new master? (Ed) Jan 15 ... 7
EEI's W. Donham Crawford at seminar on science and public policy: Crawford hands meat to the bone-pickers (N) Apr 1 ... 81
For utilities, the future is a systems problem – An interview with Philip Sporn Jan 1 ... *28
Resolution creating a select House committee to investigate "all aspects" of the nation's energy resources rejected by House (N) June 15 ... 81
Three adjoining states Montana, Wyoming and North Dakota impede public electric energy districts (N) Mar 1 ... 26

POWER SUPPLY

Accelerator takes service at 345 kv from Commonwealth Ed Feb 15 ... *61
Advocates of a "zero growth" policy in electric power consumption may be promoting a policy that will work to the detriment of poor people, says Dr. Stelzer (N) Mar 1 ... 20
Canada: B.C. expects demand of 6,700 Mw by '75 Mar 15 ... 115
Capacitor bank used to power remote loads can be a headache: Bowater's Deer Lake, Newfoundland, experience (chart) May 15 ... 48
C-E apurs test of power from waste-burning (N) Jan 15 ... 107
Con Edison seeks 10% load cut now, maybe 10% more later; Luce: 'It's sanity' (N) June 1 ... 30
Customer concern about power shortage has not changed competitive energy picture – yet Mar 1 ... 61
East Coast voltage is cut pool-wide in early February (N) Feb 15 ... 19
EW conference explores 'Energy for the 70's (N) Feb 1-19, (N) Feb 15 ... *29
Energy crisis is cited by public power spokesman Alex Radin, APPA (N) Mar 15 ... 19
Energy use: Basic to economic growth – demographic methods compiled by F. Felix (charts) Jan 15 ... 36
Evaluating system reserve with probability analysis. R.X. French (charts & table) Apr 1 ... 56
FPC's view: Summer capacity, 1971 (table) Mar 15 ... 82
For utilities, the future is a systems problem – An interview with Philip Sporn Jan 1 ... *28
Hanford closing hits Northwest (N) Feb 15 ... 27
'Hot summer' seen for Midwest and East (N) June 15 ... 28
Indiana & Michigan Electric Breed plant updates bolt-heater design. L.W. Mitchel Mar 1 ... *36
Interconnections see **Interconnections**
It's time for truth in criticism (Ed) June 15 ... 7
Joint action needed to solve fuel problem. B.F. Olson (charts) Jan 15 ... 38
Mutual-aid pacts are seen as adequate by NERC committee, but further action is recommended to strengthen reliability (table) Mar 1 ... 48
NASA's Jet Propulsion Lab backup power maintains back-up monitoring for the safe splashdown of the Apollo 14 astronauts while California rocks in its fiercest earthquakes Apr 1 ... 64
NERC lists progress toward reliable bulk power (chart) June 1 ... 70
National Power Survey, Part II 1970: Nuclear rise faster than anticipated (N) May 1 ... 30
New York: barge-mounted gas-turbine power plant for producing peaking power towed by sea to N.Y. May 15 ... *63
N.Y. Pool adds planning staff June 15 ... 68
New York PSC initiates study of load shedding and priorities (N) Jan 15-19, (N) Mar 1-19, (N) May 1. ... 29
New York State Power Pool imposes a 5% voltage reduction on Jan 18 (N) Feb 1 ... 20
North Carolina systems ordered to report changes in bulk power operation Apr 15 ... 60
Ohio munis, in trouble, want pools, joint plant ventures (N) Feb 1 ... 29
Ohio Power Co's service area anticipates no power problems (N) Apr 1 ... 19
Outages see **Outages**
Pacific Northwest utilities spilling water and in some cases selling off surplus energy in anticipation of heavy runoffs (N) Mar 15 ... 120
Pepco's borrowed transformer will give Northeast "bonus" power for summer peaks (N) Apr 15 ... 20
Potomac Electric Power offered Texas turbine to prevent brownout next summer (N) Jan 15 ... 19
Reliability: ECAR's new liaison committee will give a voice to 374 smaller systems in the East North Central Region (N) Feb 15 ... 19
Rotating units will supply system vars for Philadelphia Electric Co. A. J. Kelleher (charts) Feb 1 ... 68
SEE examines industry growth (N) Apr 15 ... 32
Three adjoining states Montana, Wyoming and North Dakota impede public electric energy districts (N) Mar 1 ... 26
Utility building can't stop for a brief recession (Ed) Mar 15 ... 7
West Coast utilities get neurotic about rains, growing pains (N) Jan 1 ... 26
Western Systems Coordinating Council forms technical staff Jan 15 ... 58
Zero-growth power advocates ignore effect on the poor says Dr. Stelzer of NERA (table) Mar 15 ... 147

PUBLIC RELATIONS

Consumers' Council proponents zero in on utilities Apr 15 ... 74
'Electricity is for people,' and Reading, Pa. proves it Apr 1 ... *70
Indiana co-ops offer hometown "news" recording service free to legislators of the Indiana General

(Ed) Editorial. *Illustrated. (N) News.

Assembly (N) Feb 15 27
Portland General Electric visitor information center: putting the public inside the atom (N) May 15 .. *26
Public Utilities Advertising Assn. convention: Advertising, PR draw fire June 15 84
Recruiting: How to bat .540 in the college circuit (chart) Mar 15 165

PURCHASING
NAPA sees need for wage and price controls (N) Feb 1 125
Public Utility Buyers Group's annual conference: Buyer meets seller in feature session (N) Apr 1 .. *117
Value – not price (Ed) Mar 1 7

R

RADIO
see Communications .....

RECLAMATION BUREAU
What power agencies plan to spend next year (table) Feb 15 28

REGULATION & RATES
see also Legislation .....
Agencies' revamping debate begins (N) Mar 15 30
Alabama Power boosts rates for summer usage (N) June 15 20
Ash panel energy report: FPC, NARUC take dead aim (N) May 15 26
AEC see **Atomic Energy Commission**
Average annual use and bill (tables) Mar 15 62
California Supreme Court upholds customer deposits (N) Apr 1 26
Central Vermont Public Service Corp temporary rate increase denied (N) Feb 1 15
Gets approval to up rates (N) May 15 15
Con Edison asks approval to up rates (N) Apr 15 .. 20
Detroit Edison undecided (N) May 15 15
Electric rate increases and decreases, 1960-1970 (tables) Mar 15 64
Electric rates still rising (N) Feb 1 15
Environmental concerns are reasons enough for rate hikes says NARUC's Bloom (N) Jan 15 ..... *27
Environmental see also **Environmental**
FPC regulation see **Federal Power Commission**
Florida P&L rate probe to be reopened (N) Feb 1 .. 15
Florida PS orders investigation of earnings, rates and charges of Florida P&L (N) May 15 15
For utilities, the future is a systems problem – An interview with Philip Sporn Jan 1 ..... *28
Georgia Power boosts rates for summer usage (N) June 15 20
IRS depreciation hearings end but the fight's not over yet (N) June 1 25
Liberalized depreciation: the battle heats up – Washington Comment June 1 11
"Marketing a Rate Increase" – booklet (N) May 1 15
Maryland stops rebates and cash allowances (N) Jan 1 19
Michigan State Rep E.D. O'Brien attacks utility gift giving (N) May 15 15
MP&L applies no-impact rate hike (N) Mar 15 15
NERA survey of state commisssions (tables) Feb 15. *30
Nixon's proposed reorganization plan will smother REA, AEC and JCAE says Rep. C. Holifield at NRECA Convention (N) Mar 1 20
North Carolina systems ordered to report changes in bulk power operation Apr 15 60
Northern States Power will up rates (N) May 15 .. 15
Oklahoma Gas & Electric Co: Keep the pop bottles – pay $11.95 Feb 1 ..... * 122
Pacific G&E asks rate increase (N) Apr 1 20
Pennsylvania P&L would freeze total-electric home-heating rate (N) Apr 1 20
Plant siting see **Environmental** – Plant siting
Promotional allowances
NARUC's Model Rules on promotional practices contain an "escape provision" (N) Jan 15 20
Spiffs lose favor as FTC seeks ban May 1 82
Washington, D.C. student group seeks promotional cutback from Potomac Electric Power (N) May 1 29
Rate changes, increases (N) Jan 1-13, (N) Jan 15-15, (N) Feb 15-15, (N) Mar 1-15, (N) Mar 15-15, (N) Apr 1-15, (N) Apr 15-15, (N) May 1-15, (N) June 15 15
Refuse Act permits: Not enough time? (N) May 15 27
Seattle City Light may hike rates by 20% (N) Mar 15 15
SO_2 removal: Chaos in the cards? (Ed) May 15 .. 7
"Technological Change in Regulated Industries" Brookings Institution – book (N) June 15 15
TVA: No further rate hike now (N) Jan 1 20
TVA and Air Force: Rate hike trips switch for war (N) Apr 15 ..... *32
URD rates and regulations see **Distribution, Underground**
Utility diversification probed (N) May 1 15

RELAYS
Quadrature channel enhances protective relaying security (charts) Feb 1 82
Relays: What's happening in substations? – report W.C. Hayes June 1 ..... *42

RESEARCH
Boston Edison begins $5-million antismog project (N) Mar 15 19
California PUC reports on R&D funding, transmission (N) May 1 30
Can SO_2 be cut from low-S coal? Salt River Project (N) June 15 96
Cornell University claims a major advance toward controlled nuclear fusion (N) Mar 15 120
EEI has 53 active research projects at the start of 1971 (N) Feb 1 20
EVC/LIA study points to electric-truck promotion (tables) Jan 15 80
EW status report: SO_2 removal systems. Development proceeds at a quickening pace. J. Guy Farthing (charts & tables) May 15 ..... *34
Florida Power and Ralston Purina do R&D on warm water (N) Apr 15 95
Florida Power automates ocean studies (N) Mar 1 .. 65
For utilities, the future is a systems problem – An interview with Philip Sporn Jan 1 ..... *28
IEEE Power Engineering Society's meeting: R+D dominates Mar 1 ..... *30
Lighting starts move to indoor farming Feb 15 .... *98
Northeast Utilities expects to spend $1.5-million in 1971 for research (N) Mar 15 19
R&D on low-cost, no-pollution generation (N) Jan 1 74
Stanford Research Institute to assess new materials for utility potential (N) Feb 15 106
Team aims for HVDC breaker breakthrough (N) Jan 15 106
"Technological Change in Regulated Industries". Brookings Institution – book (N) June 15 15
UHV joint research program moves into second stage after encouraging results Jan 1 ..... *41

RIGHT-OF-WAY
Canadian R/W air seeding has double goal (N) Jan 1 73
FPC R/W guide released (N) Jan 1 73
Integrated airborne service, Multiscan, uses photography, infrared, and CCTV (map) May 15 ..... *49
Puget Sound P&L's Renton Valley line: Hollow concrete piling for tower foundation solves unstable soil conditions May 1 ..... *54
Utilities put R/W in 'land bank' Jan 1 41
Utility corridor offers access into urban areas. Bruce Howlett Apr 15 ..... *45

RURAL ELECTRIFICATION
Electric high-clearance tractor development (N) Mar 15 20
Lighting starts move to indoor farming Feb 15 .... *98

RURAL ELECTRIFICATION ADMINISTRATION
Administrator Hamil says all electric utilities – investor-owned, public, or co-op – must cooperate (N) June 1 19
Co-ops break away from REA's apron strings – Washington Comment Mar 15 11
Statistics of REA-financed systems (table) Mar 15 .. 67
What power agencies plan to spend next year (table) Feb 15 28

RUSSIA
see Europe (Continental) .....

S

SAFETY
AP&L finds safety sells water heaters Jan 15 81
Big Rock Point asks Air Force not to fly over the plant (N) Feb 15 83
Breakaway streetlight bases really do Apr 1 ..... *49
Enclosure for shielding digger-derrick operators keeps operator safe, comfortable Mar 15 ..... *141
Great Britain: Berkeley nuclear station sabotaged (N) June 1 19
"Non-load-break" elbows: Better 'dead' than misread (Ed) Feb 15 7
Pacific G&E's three approaches to helping kids stay off towers May 1 ..... *56
Radiation-exposure guidelines currently in use have been confirmed with minor revisions (N) Mar 1 .. 105
Radio signal adds safety to crane operations May 1 . *75
Security lighting kit sold direct by APS Jan 1 ... *68
Security requires a systems approach. Fred W. Romig June 15 ..... *56
SEFOR is providing breeder's safety. Noble & Kruger (charts & tables) June 15 44
Someone blew up this tower. Why? – Interview with admitted bomber Feb 1 ..... *38
Sweden pushes ban on PCBs (N) Mar 1 98
Vacuum breakers protect 12-kv overhead loop at Stanford Research Institute Feb 15 ..... *60

SALES & PROMOTION
see also **Electric Energy Marketing** .....
California bill would prohibit all advertising and sales promotion by investor-owned utilities (electric, gas, and telephone) except advertising related to safety and consumer protection May 15 71
Central Moloney re-plots sales territory (N) May 15 .. 112
Ipalco marketing approach to close the "builder gap": total-media ads aim at potential home-buyers; two-step program is directed at builders May 15 *70
MBO – the way to go at AP&L (charts) Feb 1 .... *120
Public Information Program survey on utility advertising and promotion (N) Mar 1 20

STANDARDIZATION
see also **Environmental** .....
EEI/SEE water-heater standard gets solid utility O.K. June 15 86
Microwave ovens: Manufacturers agree to HEW standard Feb 1 123
New standard for containment-structure penetration assemblies (N) May 1 125
Trent standardizes lengths, color-codes its stainless piping (N) Apr 15 117

STATISTICS
Average annual use and bill (tables) Mar 15 62
Canadian capacity additions (table) Mar 15 70
Canadian capital spending, 1970-1971 (tables) Mar 15 68
Consumption of coal, oil, gas, and nuclear fuel in US generating stations (table) Mar 15 57
Distribution of the electric revenue dollar – percent, 1966-1970 (table) Mar 15 66
Electric customers – thousands (table) Mar 15 62
Electric energy sales – millions of kwhr (table) Mar 15 61
Electric plant maintenance expenses thousands of dollars, 1970-1971 (table) Mar 15 60
Electric power industry capability 1971 and beyond, Mw (table) Mar 15 55
Electric power system budgets: 1968-72 millions of dollars (table) Mar 15 47
Electric power system capital expenditures millions of dollars, 1960-1971 (table) Mar 15 43
Electric power system spending by ownership thousands of dollars, 1970-1971 (table) Mar 15 .. 46
Electric rate increases and decreases, 1960-1970 (tables) Mar 15 64
Electric revenue – millions of dollars (table) Mar 15 62
Electric utility capital spending by regions thousands of dollars, 1970-1971 (table) Mar 15 48
Electric utility capital spending – Thousands of dollars, 1971 (table) Mar 15 45
Electric utility capital spending – Thousands of dollars, 1970 (table) Mar 15 44
Expenditures for lines and substations – thousands of dollars, 1970-1971 (tables) Mar 15 50
FPC's new National Power Survey not due until mid-1971 (N) Jan 1 20
51 large generating units to be built by joint participation (table) Mar 15 57
Future electric generating capability additions by region, Mw (table) Mar 15 56
Industry survival is at stake (Ed) Jan 1 5
Installed capacity of utility generating plants by states & type (table) Mar 15 59
Investor-owned electric utilities combined balance sheets – millions of dollars, 1966-1970 (tables) Mar 15 65
Investor owned electric utilities income statement – millions of dollars, 1966-1970(table) Mar 15 66
New capability additions reported to Electrical World, Mw (table) Mar 15 54
1971 Annual Statistical Report (charts & tables) Mar 15-39 39-70
Security sales by investor-owned electric utilities – thousands of dollars, 1960-1970 (table) Mar 15 .. 63
Shipments of central air-conditioning units Jan 1 .. *68
Statistics of REA-financed systems (table) Mar 15 .. 67
Transmission and distribution – new lines and substations energized, 1970-1971 (tables) Mar 15 .. 52
Transmission and distribution spending, 1969-1971 (charts) Mar 15 49
US utilities plan 1971 growth 16.6% over last year's record level (charts & tables) Mar 15 42

STEAM STATIONS
ASME symposium tackles thermal discharges (chart) Jan 1 ..... *36
Central P&L's Barney M. Davis plant will include circuitous cooling-water loop (map) Apr 1 ..... *38
Colorado Ute Electric Assn and Salt River Project will jointly build steam unit for 1976 startup (N) Apr 15 19
Dry cooling tower shows promise (charts & table) June 1 ..... *60
FPC efficiency list: Duke Power's Marshall plant leads (N, tables) June 15 30
Geothermal Steam Bill signed into law (N) Jan 15 .. 25
Niagara Mohawk's Albany Steam Station converted from coal to oil with minimum disruption. Kallenbach & Cotter (chart) June 15 ..... *47
Precipitator replaced in record time at Illinois Power Co's Wood River Steam Station Jan 1 ..... *34
Seven-year lead time seen for light-water units (charts) May 1 45

STORMS
see also **Outages** .....
California: West Coast quake wrecks insulators (N) Mar 1 ..... *22
Florida and Hawaii service interrupted by wind and lightning Mar 1 ..... *50
LADWP's Sylmar terminal suffers earthquake damage (N) Mar 1 ..... *22
Mississippi Delta area: Twisters strew wreckage (N, map) Mar 15 ..... *29

SUBSTATIONS
AEP: first pad-mounted substations go into service June 15 ..... *59
Dual computers to control 46 terminals on Minnkota Power Cooperative system June 1 69
Electric Power Board of Chattanooga, Tenn., program may lead to remote computer control of substations Mar 15 100
Expenditures for lines and substations – thousands of dollars, 1970-1971 (tables) Mar 15 50
Integrated airborne service, Multiscan, uses photography, infrared, and CCTV (map) May 15 ..... *49
Master unit to control many remotes in Con Edison's energy-control center. R.K. Sullivan 15 ..... *64
Mini substations – What's happening in substations

– report. W.C. Hayes June 1 ..... *50
Mobile unit substation will be added to Ontario Hydro's fleet Feb 15 ..... *70
Pepco's module concept guides power system planning (map) Jan 1 ..... *46
Power Structures Inc makes first year count (N) June 1 139
Reynolds develops substations built of standard modules (N) Feb 1 128
Study favors plants in outer urban area (charts) Jan 15 56
Transmission and distribution – new lines and substations energized, 1970-1971 (tables) Mar 15 52
The two faces of substation engineering (Ed) June 1 7
What's happening in substations? – report. W.C. Hayes (charts & tables) June 1 ..... *35-50

SWITCHES & SWITCHING
Capacitors switched by radio, phone. D.A. Yigdal (tables) June 1 ..... *76
Ripley buys GE line of switchgear timers (N) June 15 129
Switching and power equipment prices (N) Jan 1 . 81

SYSTEMS ENGINEERING
Advanced control systems planned by Arkansas P&L, Florida P&L and Tohoku Electric June 15 ..... *68
Analog computer enlarged to study UHV transients May 1 ..... *64
Can you really optimize URD design? R.F. Cook & others (tables) Jan 1 ..... *38
Canada: B.C. expects demand of 6,700 Mw by '75 Mar 15 115
Central Nebraska's hydro control system uses programmable remotes May 15 ..... *56
Central P&L's computer designed for expansion. Caylor & Sacks May 1 ..... *62
Control of steam units aids stability: Northeast looks at fast closing of intercept valves and full-load rejection (charts) Mar 15 80
Cost program recognizes forced outages: digital computer program develops generation production costs for use in system planning studies (chart) June 1 ..... *68
Electrical World survey: Growth of 4.1% in peaks reported by 86 systems (map, tables) Mar 15 112
Evaluating system reserve with probability analysis. R.X. French (charts & table) Apr 1 56
EHV line between New England and Maritime Power Pool operates initially at 115/138 kv. Titus & Kelly (map & chart) May 15 54
For utilities, the future is a systems problem – An interview with Philip Sporn Jan 1 ..... *28
IEEE Power Meeting: Planning, operation refined (chart) Mar 1 34
Linear programming sets long-range transmission (charts) Feb 1 70
Master unit to control many remotes in Con Edison's energy-control center. R.K. Sullivan Feb 15 ..... *64
Middle South Utilities Inc, center for control system, BPMS, being expanded Feb 15 ..... *66
Mutual-aid pacts are seen as adequate by NERC committee, but further action is recommended to strengthen reliability (table) Mar 1 48
Pepco's module concept guides power-system planning (map) Jan 1 ..... *46
Plant siting: Purchases and legislation aimed at solving long-range plant siting Apr 15 60
Power Technologies method speeds analysis of system transients (chart) Apr 15 61
PS of Oklahoma installs first meter, SAM, to monitor system status May 1 ..... *65
Radio control aids load management at Northeast Utilities. Douglas Morton (map) Apr 15 ..... *58
Reliability bills see **Legislation**
Rotating units will supply system vars for Philadelphia Electric Co. A.J. Kelleher (charts) Feb 1.. 68
Simplified model aids system stability study Feb 15. 65
Study favors plants in outer urban area (charts) Jan 15 56
Three utilities plan computer systems for supervisory control and data acquisition Apr 1 58
Unit overhaul scheduled with program called MSP Apr 1 58
Utility corridor offers access into urban areas. Bruce Howlett Apr 15 ..... *45
Western Systems Coordinating Council forms technical taff Jan 15 58
Westinghouse computer programs give energy output and cost Mar 15 114
What's next in generation technology? L.G. Hauser (charts & tables) Apr 1 36

T

TAXES
Business, profit hopes are rising (tables) Apr 1 75
Faster tax write-offs get strong government push May 15 25
FPC adopts new accounting and reporting rules for five-year amortization of pollution-control facilities (N) June 15 15
Four Washington utilities will collect a 5% tax on power to be sold to Interior Dept from the new Centralia thermal plant for use in California (N) Jan 15 20
Iowa House passes bill to tax rural electric co-ops (N) Apr 1 20
IRS depreciation hearings end but the fight's not over yet (N) June 1 25
Liberalized depreciation: the battle heats up – Washington Comment June 1 11
Minnesota State Supreme Court ruling that electricity is a marketable product hinges on a further ruling: Is generation equipment actually personal property? (N) Feb 1 28
North Carolina recommends completely revised state property tax (N) Jan 15 20
Sulfur-tax plan a stinker, industry says (N) May 1 .. 27
Sulfur tradeoff exudes an odor – Washington Comment May 1 11
Utilities thrive, say Metcalf and Administration (N) Feb 1 30
Utilities want tax breaks – just like everyone else (N) Mar 15 27

TELEVISION
Integrated airborne service, Multiscan, uses photography, infrared, and CCTV (map) May 15 ..... *49

TENNESSEE VALLEY AUTHORITY
Board authorizes the agency to acquire several future sites (N) Apr 15 85
Energy cartel, coal prices questioned by TVA distributors (N) Jan 1 23
No further rate hike now (N) Jan 1 20
Purchases and legislation aimed at solving long-range plant siting Apr 15 60
Rate hike dispute with Air Force (N) Apr 15 .... *32
SO_2 removal systems status report: lime-stone-injection/dry-removal process May 15 ..... *35
What power agencies plan to spend next year (table) Feb 15 28
Watts Bar nuclear plant, Brown Boveri registers low bid on turbine-generators (N) Jan 15 105
Contract to Westinghouse (N) Feb 15 103
Contract to Brown Boveri (N) June 15 123

TESTING & TESTS
Brown Boveri plans "the largest and most advanced turbine-generator repair and test facility in the world" (N) Apr 1 113
Groundbreaking (N) May 15 ..... *109
Canadian HVDC line to test 765 kv for US Jan 1 .. 42
Computer-controlled test set performs 25 intricate tests on new communications equipment Feb 1 .. *81
Diamond Power pushes quality in reactor controls (N) Mar 1 ..... *99
EHV transmission test center (N) May 15 19
Flashover-free insulators in preproduction testing phase (N) Apr 1 ..... *118
Lab on wheels tests transformer oil at site Jan 1 .. *57
One-wire supervisory system at SCE's Mesa substation may slash control-wiring costs Apr 1 ..... *46
USSR: Pinpoint transmission faults by means of data recorded on automatic recording voltmeters or ammeters permanently connected to the circuits Jan 15 49
Westinghouse completes remote meter-reading test Mar 1 47

THERMAL POLLUTION
see **Environmental – Thermal** .....

TRANSFORMERS
Can you really optimize URD design? R.F. Cook & others (tables) Jan 1 ..... *38
Direct-buried unit looks good in test at Nevada Power. Sutton & Hanson (chart & tables) Jan 15 ..... *46
Foreign-made power transformers won 70% of federal purchases last year (N) Apr 15 121
Houston L&P transformer to see dual duty (N) Jan 15 ..... *106
McGraw-Edison president predicts power-transformer pricing will "firm up" (N) Apr 15 121
Pepco's borrowed transformer will give Northeast "bonus" power for summer peaks (N) Apr 15 .. 20
Prices (N) Apr 1 113
RTE marks millionth transformer (N) Feb 1 ..... *129
35-ft trailers handle EHV oil filling Mar 1 ..... *56
Trailer platform speeds transformer handling for Lilco Apr 15 ..... *65
Trench-lay transformer enters service at Lilco. N.E. Piccione Apr 1 ..... *44
What's happening in substations? – report. W.C. Hayes
EHV transformers June 1 ..... *39
Instrument transformers June 1 ..... *43

TRANSMISSION
Accelerator takes service at 345 kv from Commonwealth Ed Feb 15 ..... *61
Analog computer enlarged to study UHV transients May 1 ..... *64
Arizona PS contracts to Westinghouse for Page-to-Phoenix EHV system (N) Mar 15 177
California PUC reports on R&D funding, transmission (N) May 1 30
Canada: Hydro-Quebec's new 735-kv line detours icing area. C.M. Seifert (map & charts) Feb 1 .. 58
Canada: Vancouver dc link achieves 99.2% availability (tables) Mar 1 46
Canadian HVDC line to test 765 kv for US Jan 1 .. 42
Carrier-frequency tuning easier at SCE. Acton & Rhinehart May 15 ..... *46
Creep strongly affects conductor sag (chart & table) Feb 1 57
Delaware River overhead 500-kv crossing gains a step (N) June 15 19
EEI and Interior Dept jointly fund study of underground transmission (N) May 15 19
EW's conference explores 'Energy for the '70's' (N) Feb 1-19, (N) Feb 15 ..... *29
'Erected' steel transmission towers successfully tested for Detroit Edison (N) Mar 15 ..... *184
Expenditures for lines and substations – throusands of dollars, 1970-1971 (tables) Mar 15 50
EHV transmission test center (N) May 15 19
Federal government should expand its transmission facilities (N) Jan 15 19
FPC R/W guide released (N) Jan 1 73
High Voltage Power sells first CGI system (N) June 1 *139
Honey Hollow battle is finally resolved (N) Apr 15 . 19
IEEE Power Meeting: Transmission readily uprated Mar 1 32
Integrated airborne service, Multiscan, uses photography, infrared, and CCTV (map) May 15 ..... *49
Interconnections see **Interconnections**
Iran: 230-kv double-circuit line, carries power from the Mohammed Reza Shah Pahlavi Dam to Teheran Jan 1 ..... *42
Joslyn opens new service center (N) Apr 15 117
Lattice towers have low visual impact (table) Feb 15 ..... *56
Linear programming sets long-range (charts) Feb 1 . 70
Maine senate kills two transmission bills (N) June 15 20
Maryland PSC orders 3.2-mile, 230-kv line underground but grants Baltimore G&E permission to build a temporary overhead line (N) June 15 19
New York PSC initiates study of load shedding and priorities (N) Jan 15-19, (N) Mar 1-19, (N) May 1 . 29
North Central Power Study: Upper Midwest study sees 1,000-Mw units Mar 15 115
Pacific G&E's three approaches to helping kids stay off towers May 1 ..... *56
Predetermination of conductor uplift during pull can be easy. P.C. Evans (charts & table) Mar 15 99
Program analyzes cable thermal parameters (chart) Mar 15 101
Puget Sound P&L's Renton Valley line: Hollow concrete piling for tower foundation solves unstable soil conditions May 1 ..... *54
Reliability bills see **Legislation**
Siting: Administration enters game of siting plants and lines (N) Mar 1 24
Siting: N.Y. county official suggests siting troika (N) Feb 1 30
Someone blew up this tower. Why? – Interview with admitted bomber Feb 1 ..... *38
Study favors plants in outer urban area (charts) Jan 15 56
Sweden: HVDC reinforcement due for Gotland Feb 15 61
Team aims for HVDC breaker breakthrough (N) Jan 15 106
Towers . . . PS Co of Colorado; Florida Power Corp; Ontario Hydro June 15 ..... *60
Transmission and distribution – new lines and substations energized, 1970-1971 (tables) Mar 15 52
Transmission and distribution spending, 1969-1971 (charts) Mar 15 49
UHV joint research program moves into second stage after encouraging results Jan 1 ..... *41
Underwater cable fault due to thermal runaway May 1 ..... *52
Circumstances leading to failure of single 500-MCM Pasny/Velco underground cable May 1 ..... *53
USSR: Pinpoint transmission faults by means of data recorded on automatic recording voltmeters or ammeters permanently connected to the circuits Jan 15 49
USSR: Transmission tower supported by pontoons, semicylindrical, with flat bottoms, which "float" the tower on the surface of the tundra Jan 1 .... *42
Utility corridor offers access into urban areas. Bruce Howlett Apr 15 ..... *45
What's happening in substations? – report. W.C. Hayes Transmission and distribution (charts) June 1 ..... *45–49
Hi-voltage protection June 1 ..... *45
Low-voltage protection June 1 ..... *46
Relaying June 1 ..... *46
Structures June 1 ..... *47
Grounding June 1 49
Why should you consider 765 kv? (charts & tables) Apr 15 42

TRUCKS & TRAILERS
see **Vehicles** .....

TURBINES
Brown Boveri plans "the largest and most advanced turbine-generator repair and test facility in the world" (N) Apr 1 113
Groundbreaking (N) May 15 ..... *109
Compartmentalized shipping/storage unit can hold 40,000 lb of small turbine parts (N) Mar 15 ..... *183
Control of steam units aids stability: Northeast looks at fast closing of intercept valves and full-load rejection (charts) Mar 15 80
Curtiss-Wright offers utility-size gas-turbine plants powered by Rolls-Royce (N) Jan 15 105
Curtiss-Wright records first gas-turbine power plant sale from the City of Norwich, Conn. (N) May 1 . 131
GE ships MS 7000 from Greenville plant (N) May 1 ..... *134
Indiana & Michigan Electric Breed plant updates bolt-heater design. L.W. Mitchel Mar 1 ..... *36
Japan will remove import controls on steam turbines under 400 Mw (N) Feb 15 103
New York: barge-mounted gas-turbine power plant for producing peaking power towed by sea to N.Y. May 15 ..... *63
Potomac Electric Power offered Texas turbine to prevent brownout next summer (N) Jan 15 19
Rolls Royce bankruptcy will not cut turbine supply to utilities (N) Mar 1 19
TVA's Watts Bar nuclear plant
Brown Boveri low bidder on turbine-generators (N)

(Ed) Editorial. *Illustrated. (N) News.

Jan 15 105
Contract to Westinghouse (N) Feb 15 103
Contract to Brown Boveri (N) June 15 123
Turbodyne gets access to BST turbine designs (N) June 15 128
Westinghouse undertakes turbine-modification action (N) Mar 1 108
What's next in generation technology? L.G. Hauser (charts & tables) Apr 1 36

V

VEHICLES

Bucket truck-crane has 70-ft reach Jan 1 . . . . . *56
Canada: 65 gigantic earthmovers build British Columbia Hydro's Mica Dam Feb 1 . . . . . *76
Electric car see **Industrial Applications**
Fiberglass struts solve weight problem on 'scissor' boom-truck May 1 . . . . . *71
Go-anywhere vehicle negotiates rugged terrain in South Dakota's Black Hills Apr 1 . . . . . *60
Hydraulic crane eases operator's job Jan 1 56
Lab on wheels tests transformer oil at site Jan 1 . . . . . *57
LADWP's construction aided by lowbed trailer Mar 15 . . . . . *142
Machine trenches, backfills, and backhoes Jan 15 . . . . . *65
Mobile 1-man unit reaches jobs 46 ft up Jan 15 . . . . . *65
Mobile units cope with varied jobs at Niagara Mohawk Power Apr 15 . . . . . *64
Philadelphia Electric Co's second nuclear installation at Peach Bottom: 40-mile move planned for three years Feb 15 . . . . . *68
Rough-terrain crane cuts rehandling 10% to 15% to meet deadlines at Wisconsin PS's Kewaunee nuclear plant June 15 . . . . . *74
Sangamo gives hypo to auto meter reading (N) Jan 1 . . . . . *82
A day with a Purdax-style meter reader (N) Jan 1 . . . . . *82
Self-contained, trailer-mounted Fermont Floodlighter Jan 1 . . . . . *57
Six concrete bucket transfer cars to shift concrete at Coulee Dam Mar 15 . . . . . *142
Tacoma City Light electric rig eases inspection Apr 1 . . . . . *60
35-ft trailers handle EHV oil filling Mar 1 . . . . . *56
Three-wheel truck runs on batteries Feb 1 . . . . . *77
Trailer platform speeds transformer handling for Lilco Apr 15 . . . . . *65
Truck crane shows might at Mt. Storm June 1 . . . . . *80
Vehicle-maintenance conference highlights emission control, chain-drive lubrication May 1 70
Versatile units fight construction costs May 1 . . . . . *70
Wisconsin-Michigan Power's Point Beach nuclear plant: Dollies, barges, cranes assemble plant Mar 15 . . . . . *140

VOLTAGE REGULATION

German clock has one face telling time and another telling of voltage reductions (N) Mar 1 . . . . . *25
New York PSC initiates study of load shedding and priorities (N) Jan 15-19, (N) Mar 1-19, (N) May 1 . 29
Power Technologies method speeds analysis of system transients (chart) Apr 15 61
Radio control aids load management at Northeast Utilities. Douglas Morton (map) Apr 15 . . . . . *58

W

WATER POLLUTION

see **Environmental, Natural Resources** . . . . . .

WELDING

B&W's new welding school nets several phases (N) June 15 . . . . . *130

AUTHOR INDEX

A

Acton, Hayes & Norman Rhinehart: Carrier-frequency tuning easier at SCE May 15 . . . . . *46
Albutin, C.L. & H.J. Rand: Downtown areas go underground Mar 15 . . . . . *96

B

Bigge, W.B. & M.R. Stepp: Sensitivity analysis: Big step in managing fuel cycle costs Feb 1 48

C

Caylor, L.H. & J.D. Sacks: Computer designed for expansion May 1 . . . . . *62
Conner, James C.: Cincinnati sells all-electric stadium Jan 1 . . . . . *66
Cook, R.F. & others: Can you really optimize URD design? Jan 1 . . . . . *38
Cotter, J.F. & G.K. Kallenbach: Plant converted from coal to oil with minimum disruption June 15 . . . . *47

D

Daebeler, G.F. & A.C. Schafer: Meeting the need for fuel-cycle data Apr 15 36
Davison, C.H.: Unit-train economics optimized with night-time lighting June 15 . . . . . *48

E

Evans, Philip C.: Predetermination of conductor uplift during pull can be easy Mar 15 99

F

Farthing, J. Guy: EW status report: SO_2 removal systems. Development proceeds at a quickening pace May 15 . . . . . *34
French, R.X.: Evaluating system reserve with probability analysis Apr 1 56

H

Hanson, E.B. & M.C. Sutton: Direct-buried unit looks good in test Jan 15 . . . . . *46
Hauser, L.G.: What's next in generation technology? Apr 1 36
Hayes, William C.: What's happening in substations? June 1 . . . . . *35
Howlett, Bruce: Utility corridor offers access into urban areas Apr 15 . . . . . *45

J

James, D.W.: Coping with NO_X: A growing problem Feb 1 44

K

Kallenbach, G.K. & J.F. Cotter: Plant converted from coal to oil with minimum disruption June 15 . . . . *47
Kelleher, A.J.: Rotating units will supply system vars Feb 1 68
Kelly, D.F. & G.L. Titus: EHV line operates initially at 115/138 kv May 15 54
Kruger, G.B. & L.D. Noble: SEFOR is providing breeder's safety June 15 44

M

McCarthy, H.T. & D.W. Steele: One-computer system optimizes control June 15 . . . . . *66
Mitchel, Lester W.: Plant updates bolt-heater design Mar 1 . . . . . *36
Morton, Douglas: Radio control aids load management Apr 15 . . . . . *58

N

Neuhoff, M.C.: Survey finds master meters on upswing Mar 1 44
Nickel, D.L. & others: Can you really optimize URD design? Jan 1 . . . . . *38
Noble, L.D. & G.B. Kruger: SEFOR is providing breeder's safety June 15 44

O

Olson, Benjamin F.: Joint action needed to solve fuel problem Jan 15 38

P

Piccione, N.E.: Trench-lay transformer enters service Apr 1 . . . . . *44

R

Rand, H.J. & C.L. Albutin: Downtown areas go underground Mar 15 . . . . . *96
Rhinehart, Norman & Hayes Acton: Carrier-frequency tuning easier at SCE May 15 . . . . . *46
Romig, Fred W.: Security requires a systems approach June 15 . . . . . *56

S

Sacks, J.D. & L.H. Caylor: Computer designed for expansion May 1 . . . . . *62
Schafer, A.C. & G.F. Daebeler: Meeting the need for fuel-cycle data Apr 15 36
Seifert, C.M.: New 755-kv line detours icing area Feb 1 58
Serfass, J.A. & others: Can you really optimize URD design? Jan 1 . . . . . *38
Sporn, Philip (interview): For utilities, the future is a systems problem Jan 1 . . . . . *28
Steele, D.W. & H.T. McCarthy: One-computer system optimizes control June 15 . . . . . *66
Stepp, M.R. & W.B. Bigge: Sensitivity analysis: Big step in managing fuel cycle costs Feb 1 48
Sullivan, Roger K.: Master unit to control many remotes Feb 15 . . . . . *64
Sutton, M.C. & E.B. Hanson: Direct-buried unit looks good in test Jan 15 . . . . . *46

T

Titus, G.L. & D.F. Kelly: EHV line operates initially at 115/138 kv May 15 54

W

Weber, John W.: Utilities need a management renaissance II Jan 1-77, III Jan 15 97
Wright, Dr. James H. (interview): Is politics the real polluter? May 1 . . . . . *32

Y

Yigdal, David A.: Capacitors switched by radio, phone June 1 . . . . . *76

(Ed) Editorial. *Illustrated. (N) News.